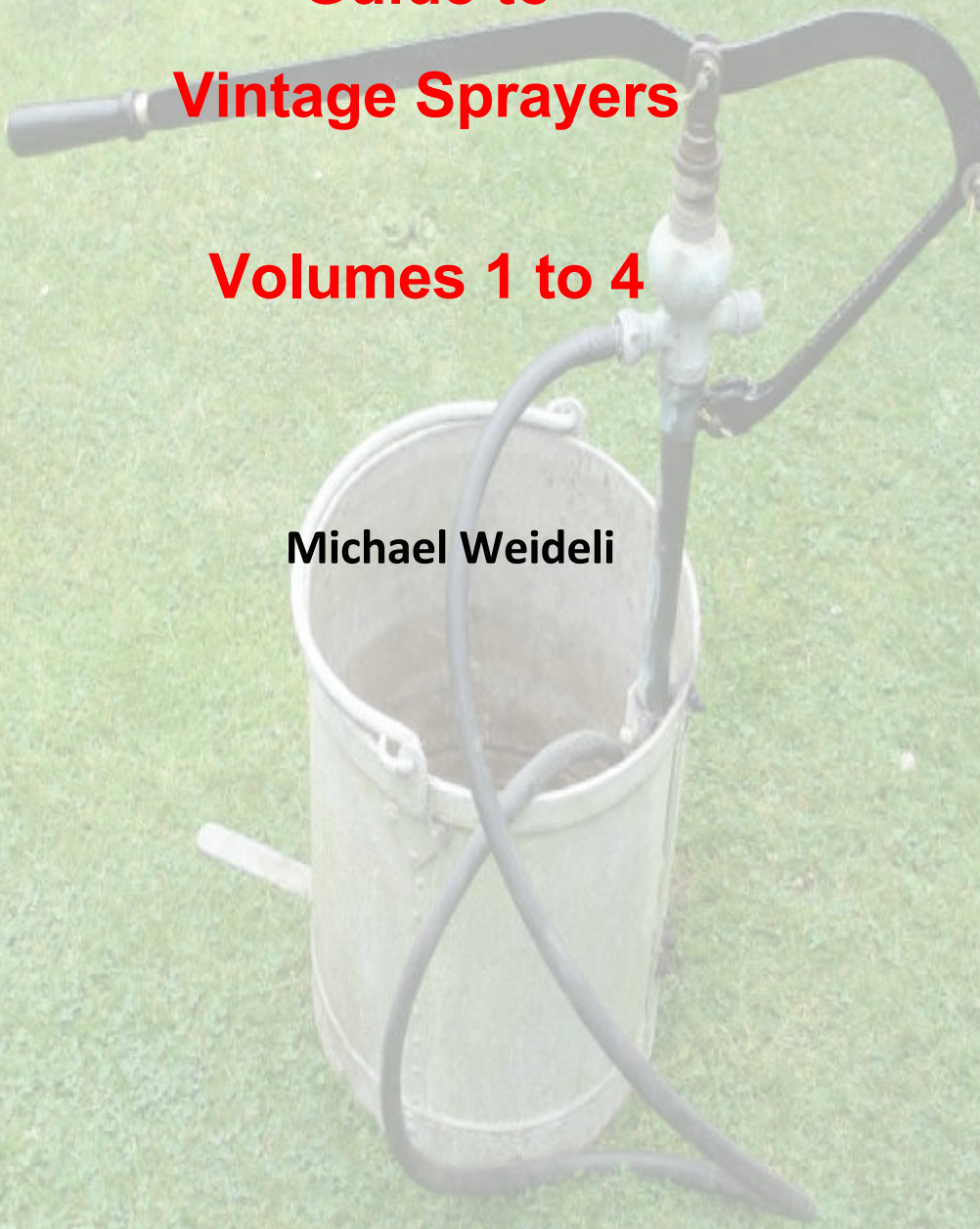
Guide to Vintage Sprayers

Volumes 1 to 4



Michael Weideli

This Version as at 4 June 2026

Guide to

Vintage Sprayers

Michael Weideli

Volume 1

Manual Sprayers

Version 4.8 - 19th February 2026

Most of the information in this document is drawn from my own collection of sprayers and related documentation. A small number of images originate from Grace's Guide to British Industrial History. Wherever these appear, I have clearly indicated their source. If you wish to use those images, please obtain them directly from Grace's Guide and follow their usage policies.
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For more information, please see the three other volumes in the series.

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INTRODUCTION

Below. The Four Oaks Spraying Co. 'Farmer' sprayer. Bucket sprayer.

Below. The Four Oaks Spraying Co. pneumatic sprayer. Capacity 4 gallons.

Below. Donald Edwards Ltd. Pneumatic sprayer. Capacity 2 pints.

This book is about the smaller manually operated garden sprayers with particular reference to those manufactured in the United Kingdom. The sprayers covered would have been used for various purposes including watering, and the application of pesticides and herbicides. While the emphasis is on sprayers used in gardens many sprayers were multi-purpose. Even those designed with one purpose in mind could be used in different ways. For example, sprayers sold specifically for applying limewash could be used for many other spraying tasks.

Only the smaller sprayers capable of being operated by one person are covered. The larger mobile sprayers are mentioned where appropriate but not covered in detail,

Chapter 2 provides a short history of the development of garden sprayers. Subsequent chapters are concerned with sprayers manufactured from about 1840 to 1970. This is the period for which there are surviving examples of the sprayers, and the period when they were actually being manufactured in the United Kingdom.

Garden sprayers can be classified based on their appearance. For example, syringes, self-supplying sprayers, knapsack sprayers, bucket pumps, pneumatic sprayers, and vaporisers. However, this classification is not helpful when looking in detail at the way the sprayers work, so I have divided the sprayers into six categories based on the type of pump - Force Pumps, Plunger Pumps, Diaphragm Pumps, Common Pumps, Pneumatic Sprayers and Atomising Sprayers. There is a chapter on each of these, subdivided where necessary based on the construction of the pumps. In addition, there is a chapter on parts and accessories, including hoses, lances, nozzle and agitators.

Special mention needs to be made of sprayers where the pump is encased or partly encased in an outer container. The purpose of this can be to hold the liquid to be sprayed, to act as an air-chamber, or to redirect the flow of the pump. In order to identify the type of pump, and to work out the purpose of the outer container it may be necessary to dismantle the sprayer.

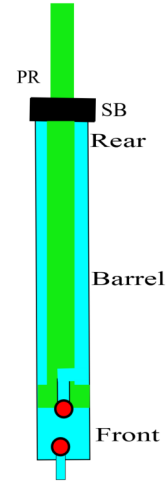
The terminology used is largely based on the patents of the early 20th century. To be consistent I have used the term barrel for the pump cylinder. The term plunger rod is used where there is no piston (i.e. on plunger pumps). Otherwise, the term piston rod is used. The rear of the barrel is always the end where the piston or plunger rod passes into the barrel. The front of the barrel is the opposite end to this. Above the piston means the side nearest the rear of the barrel. Valves are non-return valves operated by changes in pressure within the sprayer during operation.

All the pictures are from sprayers in my collection. I only do the minimum cleaning necessary to prevent further deterioration. The pictures, therefore, reflect the used condition of the sprayers. Restoration can potentially result in the loss of details which are important in understanding the sprayers and identifying the manufacturer.

Below. Cromessol Co. Ltd. Glasgow, vaporiser. (barrel 1ft long). Force pump sprayer encased in a cylinder forming a container for the liquid.

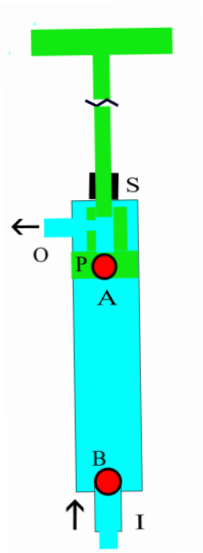
Below. W.T.French & Son Ltd. syringe sprayer. Barrel length 14". The sprayer as shown is fitted with a spray head with a separate fast-fill valve. The spray caps can be changed to give a fine, medium, or coarse spray. The spray head can also be changed for a rose or jet nozzle. The sprayer has a drip preventing sleeve and a stuffing box. Late 1940s.

Below. Force and common pump identification. Identify the pump barrel. Then identify the piston rod. The rear of the barrel is always the end where the piston rod enters the barrel irrespective of the position of other features such as nozzles and handles. The other end of the barrel is the front. Pumps based on the common pump will have a valve in the piston which allows liquid to pass from one side of the piston to the other (not just into a hollow piston rod). Check to see if the input or output is through a hollow piston rod and if not, where they are in the barrel (front or rear). Look for an air-chamber. The pump type can then be determined.



PUMPS - INTRODUCTION

*Below. Diagram of a common pump. On the pull stroke piston valve (**A**) is closed and inlet valve (**B**) open. Liquid is sucked in via inlet (**I**) and liquid is expelled via outlet (**O**). On the push stroke liquid passes through the piston valve (**A**) ready to be expelled on the pull stroke.*



A pump is defined as a device that moves fluids (liquids or gases), or sometimes slurries by mechanical action. As used in sprayers, their use is to move the liquid, or to provide compressed air drive the movement. The sprayers covered in this publication use Positive Displacement Pumps. These can further be classified as follows:

Reciprocating-type positive displacement:

- piston pumps,
  - Common or Lift Pump
  - Force Pump
- plunger pumps
- diaphragm pumps
- peristaltic or roller pump

Rotary-type positive displacement:

- Rotary pumps
- Semi Rotary Pumps

Rotary and semi rotary pumps, although very efficient, do not cope well with liquids containing abrasive particles. They were used by some of the early manufacturers for garden engines and fire engines. They have many moving parts and are costly to make, and were not made by later sprayer manufacturers. In 1858, a US patent was granted to W. Pierce for improvement to semi rotary pump, so they were known before this.

Single action diaphragm pumps are thought to have been invented by J Ease in 1854. G F Strawson's patent in 1898 covers their use in sprayers.

The concept of the Plunger Pump is said to have been invented by Sir Samuel Morland in 1675. They do not have a piston. The plunger rod is a tight fit into the barrel and as it moves it displaces the liquid in the barrel. Few sprayers actually use this type of pump, but the principle is used as part of the cycle in some double action sprayers.

The peristaltic pump works by compressing a plastic tube between rollers. The relatively modern Black & Decker hand pump is the only one covered which uses this approach.

The majority of sprayers are based on the piston pumps. Either the Common or the Force pump. They can both be single action but double action common pumps are more common. Common pumps are less powerful than the force pumps but tend to be heavier and take up more space. This makes the common pumps the preferred choice for the smaller sprayers which need to be carried. Force pumps are often used in the conjunction with large containers on wheels.

The piston in plunger and piston pumpd does not move at a constant velocity. As a result of this the pressure and delivery fluctuate over the duration of the stroke. With manual sprayers the user will often not be pumping at a constant rate, and there is a point at the end of each stroke where the pressure is zero. With sprayers this can causes problems, especially when they are being used to apply an even coat of limewash or similar. These fluctuations in pressure can be mitigated by the installation of an air chamber (air-filled accumulator). The air in the chamber is pressurised during the discharge of the sprayer. This smooths out the pressure within the sprayer giving a more even flow. Air chambers are cylinders or bulbous additions to the sprayer, or they can be tubes hidden within the body of the sprayer and not obvious. A hollow piston rod can act as an air chamber.

Air chambers are also used with single action force pumps. In these cases the air chamber is between the output valve and the outlet. It is pressurised on the output stroke, with the compressed air powering the output while the pump barrel is being refilled.

A BRIEF HISTORY

Patents

For most of the period covered, patents were valid for 14 years, with possible extensions. In 1977 this changed to 20 years, subject to the payment of an annual fee.

This chapter gives an overview of the development of garden sprayers. It is divided into seven periods. However, this is for convenience only. While there are some important milestones in the development of the sprayers, new inventions and discoveries were often slow to replace established approaches. In many cases the old and the new continued alongside one another for many years. Sometimes this was because of patents, and sometimes because the developments were not of value in all situations.

The Ancient World – The Greeks and Romans

Force pumps are known to have been in use in Greece in 250 BC and in use by the Romans. A syringe is a simple implementation of a force pump. Syringes were in use in Roman times for medical purposes and probably had other uses. Hero of Alexander (10-70 AD) describes a syringe as a device for the sprinkling and dispersal of water. Pesticides were in use in gardens in Roman times, so it is possible that syringes and force-pump based sprayers were in use to apply them.

15th to 16th Century – Medical Syringes

The use of brass syringes for medical purposes is mentioned in 1425 and 1541, but again there is no mention of the use of syringes or sprayers in the garden. I would imagine that the situation was similar to Roman times in that pesticides were definitely being used and that the use of sprayers to apply them can't be ruled out. The use of the enema syringe is documented for this period, and it would be easy to adapt an enema syringe for use in the garden. The development of the common pump seems to have started in the 16th century, but there is no evidence to suggest they were used in sprayers.

17th Century – The First Garden Sprayers

In the early 17th Century, there is the mention of a small pump being used to spray trees. Fire pumps are illustrated as being in use in 1697. This suggests that the technology was understood, and it is reasonable to assume that sprayers were being used in the garden.

Early 18th Century - Garden Engines

The term 'Garden Engine' was applied to any portable pump that could potentially be used in the garden. Manufacture seems to have started in the late 17th Century. Second hand garden engines were being advertised in 1755 (*Gloucester Journal - Tuesday 22 July 1755).*

Some came attached to a container. In the early days this was an oak barrel, and later galvanised containers were used. Others were designed to be used with the user's own container either with an input hose or with the foot of the pump placed in the container. Garden Engines were not only advertised for garden use but also for firefighting and window cleaning.

Most garden engines seem to be based on the force pump, the concept of which was well understood. These could give the maximum throw of water, making them useful for firefighting. An air chamber was often included to give a continuous spray. It isn't always possible to tell the type of pump from illustrations and some may have been based on the common pump. In 1873 Pontiflex and Wood Ltd were advertising a garden engine based on a semi rotary pump.

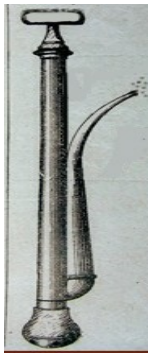
Below. Treggon & Co WATER WITCH garden engine - 1883.

There were many small manufacturers making garden engines. Chapter 49 covers some of these with many illustrations of the early garden engines. W T French & Son were still featuring Garden Engines in their 1918 catalogue. However, the use of the term began to die out

after WW I. This is thought to be because the term ‘engine’ was by this time being associated with steam and petrol power.

The Four Oaks Spraying Machine Co were still advertising two garden engines in 1937. The term has disappeared from the W T French catalogue of 1939. One sprayer referred to as a ‘garden engine’ in the 1918 catalogue was still being produced in 1938 and this was by then called a spraying machine.

Below. A self-supplying sprayer of late eighteenth century design. It has a foot made of wood. This contains the two valves. The foot was placed in the container and the handle moved up and down to give an intermittent spray.



Mid to Late 18th Century – The Blacksmiths

In 1763 there is a record of a tinplate sprayer being used for applying pesticides. I think tinplate was just one of the materials being used. It would seem that until the latter part of the 18th century sprayers were of a simple design. Syringes were basically a straight tube with a piston and a rose nozzle. Self-supplying sprayers were based on the force pump and used leather valves. They were probably made by blacksmiths or metal workers with whatever material they had at hand.

Early 19th Century - The Scientific Instrument Makers

Below. A brass medical pump. Barrel length 10”.

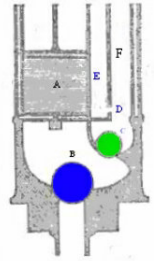
John Read started work as a gardener in Horsmonden Kent. In 1819 he invented a syringe with a fast-fill valve controlled by a ball valve. He adapted this valve for use in self-supplying and barrow sprayers and in a stomach pump for which he is famous. All these sprayers are based on the force pump.

In 1847 John Read was succeeded Richard Read (their relationship is unclear). There are entries for Richard in the records for the Great Exhibition of 1851 and for the London Exhibition of 1862. The 1862 entry includes a picture of four types of sprayer. John and Richard are in the census for 1841 and Richard in the census for 1851,1861 and 1871 - in all cases still as a surgical instrument maker.

HORTICULTURAL ENGINES, MACHINES, AND SYRINGES, manufactured only by Richard Read, instrument maker (by appointment) to Her Majesty.

Right. Read's patent bucket pump. Inlet ***(A****) and outlet (***B****).*

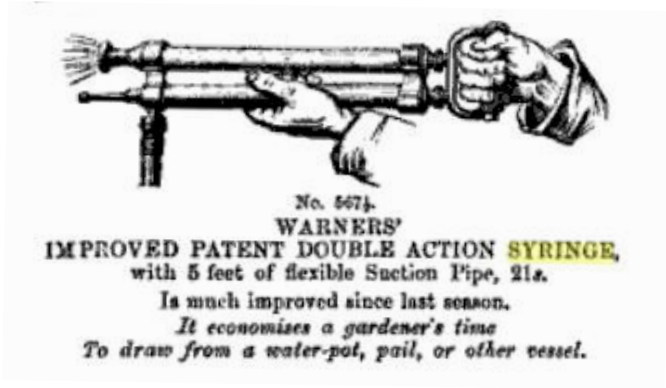
*Below. Read's valve. On pull stroke the input valve (Blue) is open and the output valve (Green) is closed. Liquid is sucked in. On the push stroke the input valve (Blue) closes and the output valve (Green) opens, forcing liquid to exit through chamber (***F****) and pressurising the air in the air-chamber (***E****).*



The illustration above is from the London Exhibition of 1862 (*Copyright Grace's Guide*) and shows several pumps. The man in the background could be using a self-supplying sprayer. The woman in the centre is using a syringe and the man on the right, a 'Barrow' sprayer. The woman on the left is using a Read's patented design self-supplying bucket pump.

There were several other scientific instrument makers making syringes at this time. For more information on them and other aspects of syringe history see Volume 2.

The first true handheld self-supplying sprayer I am aware of is the John Warner and Sons Ltd. 'double action syringe' shown in the illustration below. It dates from about 1860. John Warner and Sons Ltd. are primarily known as bell founders. Pumps and sprayers seem to have been part of the business until the mid 1870s.



Left. Warners' double action sprayer.

This is probably one of the earliest sprayers to be based on a common pump. Further information on the workings of this sprayer and the similar hydropault are in volume 3.

Below. An advertising card for the Whitman pump showing several ways in which it could be used.

In 1870 Josiah A. Whitman has an American patent for a sprayer which uses a hollow piston but still based on the force pump. Although an American sprayer, it needs to be mentioned because it is important in the development of sprayers. It seems to have been one of the first to use a rear supply and have a hollow piston. It is possible that Whitman sprayers were imported into the UK or that they were copied legitimately or otherwise by UK manufacturers. The patent for the Whitman sprayer is for a single action sprayer. It does mention the possibility of using the approach for a double action sprayer but there are no details.

Late 19th and Early 20th Century.

The origins of Benton & Stone go back to 1814, and they were definitely making sprayers by 1864. Ernest H. Hill started trading in 1841, Thomas Hickin in 1845, William Cooper in 1852, and W.T.French in 1865. They were probably

making both syringes and other types of sprayer.

Below.
W.T.French,
Bucket pump.

At the very end of the century a number of new manufacturers start up, including many who will later become major players. Among them G & W Purser Ltd., and the Four Oaks Spraying Machine Co. (Founded 1895).

E.A.White (later Abol Ltd.) started trading in 1894 and has a patent (GB189902878 11 Mar 1899) for a garden syringe nozzle. The Abol sprayer received a testimonial from National Rose Society Royal Gardens, Kew in 1908.

Below. This 1927 illustration is a Four Oaks 'Attachable' pump designed to be attached to any suitable container. From the illustration it looks like it uses a force pump.

William Ludford (The Four Oaks Spraying Machine Co.) has a patent (GB191316492A 2 Jul 1914) for a container of 'deep pail construction' with a pump mounted vertically inside. This pump appears to be based on a common pump and has a hollow piston rod. This is the configuration which later becomes the standard pump for bucket and stirrup pump sprayers. The patent doesn't cover the pump and suggests that it was 'commonly known' at the time. This type of pump would have taken up less space than a force pump of similar output making it more effective for use in the small container. Force pumps appear to have continued to be used in the larger sprayers.

Below. Solo sprayer.

There are several patents in the early 1920s which appear to have resulted in the formation of new companies to exploit them. In 1924 William Grimley has a patent for a single action sprayer (GB221032A 4 Sept1924). This was based on a common pump but with the inlet at the handle end of the barrel. In the same year, Harry Mould and William Grimley founded the Eclipse Spraying Company. Joseph Lilly has a patent (GB217297A 10 Jun 1924) for a nozzle which has a 'plurality - of discharge'. Marketed as the ROSENJET nozzle it appears to have been the basis for the formation of R.Harris Ltd.

Similarly, William Deniston was granted a patent for a double action sprayer (GB280003A 10 Nov 1927) which leads to the formation of Solo Sprayers Ltd.

Below. Knapsack sprayer with an internal diaphragm pump.

Backpack sprayers were available from the early 1900s. The Four Oaks Spraying Machine Co. has various awards in 1910 for their backpack sprayers, so they were definitely in use by then. The early ones were made of copper or brass. They work using a force pump. This is either a cylinder pump fitted internally or externally, or a diaphragm pump fitted in the base of the sprayer. In the 1950s some manufacturers start using steel for the container and in the 1960s plastics start being used. The principle on which they work remained the same.

Below. Pneumatic sprayers.

Pneumatic sprayers use a pressurised container. Liquid is held in an airtight container. and air is pumped into the container pressurising the air above the liquid. The pump can be mounted either horizontally or vertically. In the vertically mounted sprayers, the output is either from the top or bottom of the container. There is a trigger or tap on the output hose or nozzle and when the user opens this, liquid is forced from the nozzle. The horizontal configuration is used on handheld pneumatic sprayers. With these, pressure is only maintained while the pump is in use.

The concept was understood by the early 17th century. Implementation in sprayers had to wait until the technology was there to produce containers which were light enough to be carried but strong enough to stand the pressure involved. The first patent I am aware of is dated 1902 (See Presto Gear Case and Component Co Ltd in Chapter 51). This has a vertically mounted pump.

Some of the early pneumatic sprayers were pressurised using a separate pump, however, in most sprayers the air pump is part of the machine. Pneumatic sprayers are usually filled manually, but there are sprayers filled and

pressurised using the same pump and inlet. The Four Oaks Spraying Co. has as 1923 patent for a sprayer that works in this way.

In some sprayers the air pump both pressurises the container and passes some air directly to the nozzle where it mixes with liquid from the container to form an atomised spray. A different way of doing this is used in some sprayers which rely on the venturi effect. If a fast air stream is passed across the top of a vertical tube the pressure in the tube drops and liquid is sucked up the tube where it is broken up into tiny droplets in the stream of air. The idea comes from the late 19th century for use in spraying medicine on the back of a patient's throat.

1940s to 1970s

Below. R. Harris (Brassfounders) Ltd. Height about 6". Uses a small force pump.

From the 1930s to the 1950s there are a number of patents making minor improvements to sprayers of all types. There are no new major developments. In the early 1960s brass sprayers were still widely available but before the end of the decade plastics had taken over. Imports of both complete sprayers and also of various components effectively means the end of most garden sprayer manufacture in the UK. Many of the manufacturers cease to trade but a few continue in some form today.

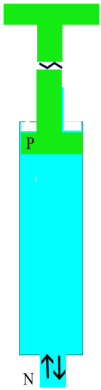
Right. Hozelock Ltd. Pneumatic sprayers. 1980s.

Below. Flit Sprayer. Designed for a DDT based product made by Esso Petroleum Co. Ltd.

FORCE PUMP SPRAYERS

The principles of the force pump were known to both the Greeks and Romans. The most common implementation uses a suction cylinder (the barrel). A piston rod with a piston on the end fits within the barrel. The user moves the piston rod in a reciprocating motion.

*Below. On the pull stroke liquid is sucked into the barrel through the nozzle (**N**) and on the push stroke it is expelled through the nozzle.*

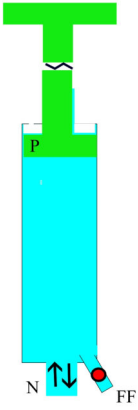


Syringe Sprayers

A syringe is a special form of force pump where the inlet and outlet are the same. In a simple implementation, there is no need for a valve.

The nozzle will restrict flow into the syringe, so to speed up filling a fast-fill valve may be fitted. This may be a separate inlet or it may be incorporated into the nozzle. A fast-fill valve opens on the pull stroke allowing liquid to flow into the barrel both through the nozzle and the valve. On the push stroke the fast-fill valve closes, so that liquid is forced out through the nozzle.

*Below. On the pull stroke liquid is sucked into the barrel through the nozzle (**N**) and also through the fast-fill valve (**FF**). On the push stroke valve (**FF**) closes and liquid is forced out through nozzle (**N**).*



Syringe barrels are usually made of brass. Tinplate, copper, galvanised steel, pewter and plastic were also used. Barrels sometime have a drip protector. These are cup shaped collars which fit around the barrel and prevent liquid from running down the barrel and over the user. Alternatively, they may have a drip-preventing sleeve which fits around the top of the barrel. These prevent drips and catch any liquid which gets beyond the piston.

There is usually an air vent near the top of the barrel. There may also be a stuffing box (gland) where the piston rod passes through the barrel end cap.

Piston rods are usually made of brass or steel, Brass rods may be hollow. Pistons are normally cotton bound brass pistons (cotton reel pistons) or back-to-back cup washer pistons. The cup

Below. A cotton packed piston (cotton reel piston) with packing removed.

washers are usually made of leather. There are also some special types. For example, Stone's adjustable plunger.

Nozzles can be either rose, jet, or spray. They can be fixed or interchangeable. There are some special nozzles which can automatically change the type of spray as the syringe is turned. Spray nozzles can have integrated fast-fill valves, or the fast-fill valves can be separate.

Below. Back-to-back cup washers.

Bends can be provided to make spraying under leaves easier. These can be fixed or interchangeable.

Below. Simple syringe made by R.Harris (Brassfounders) Ltd. It has a fixed rose nozzle without a fast-fill valve. Cup washer piston. Barrel 15" long.

Below. E.A.White Ltd. (later Abol Ltd.). Early sprayer probably around 1900. Barrel about 20" long. The spray head has a separate fast-fill valve. The fast-fill valve is angled, so that it reaches the bottom of the container when placed in at an angle. It has a drip protector and stuffing box. A rose nozzle is provided. This can be screwed on in place of the spray head. Internally has a cotton reel piston.

Below. Abol Ltd. sprayer. Abol No. 4. Barrel about 14" long. The spray head has a separate fast-fill valve. Drip-preventer and stuffing box. Rose and jet nozzles (jet not shown) with holders. These can be screwed on in place of the spray head. Nozzle caps for the spray nozzle which can be used to change the spray. Internally it has a cotton reel piston on a hollow brass piston rod. Dates after 1932.

Below. Four Oaks Spraying Co. Undentable. Barrel about 20" long. The spray head has separate fast-fill valve incorporated into the spray head casing. The barrel is encased in corrugated brass. This protects the barrel from being dented. Air vent. Cotton reel piston.

Below. R.Harris (Brassfounders) Ltd. ROSENJET sprayer. Barrel 18" long. Fitted with a special nozzle. Either a rose or jet depending on which way the barrel is turned. Controlled by a ball in the nozzle.

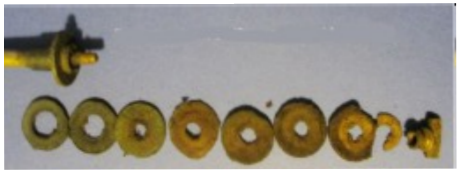
Right. Interior of the ROSENJET nozzle. Uses a ¼" ball which moves to block the outlet not required. Acts as a fast-fill valve while filling.

Below. G&W Purser Ltd. Peerless Spray 3. Barrel length 20". Head with two branches. One is used for the fast-fill valve and the other for the working nozzle. Allows the sprayer to be set up for either forward spraying or at an angle. Rose nozzle and two additional spray nozzles. Holder on the drip preventer. Cup washer piston.

Right. Spray head from a Crossland & Wood Ltd. 'Citadel' Model. It works using two ¼" balls in similar way to the ROSENJET.

Below. Benton & Stone Ltd. Syringe fitted with Stone's adjustable plunger. Barrel 18" long.

Right. The piston is made up of several leather washers fitted between two metal washers. Tightening the wing nut on the end of the assembly compresses the leather washers to form a tight seal.



Right. The components of the spray nozzle. The component on the right is the swirl plug. When inserted into the spray housing the grovoe forms the channel through which liquid passes. The central components form the valve. When filling it moves back allowing liquid to flow around it. When spraying it moves forward, so that liquid can only pass through its centre.

Below. At first sight, this looks like an Eclipse Spraying Co. Ltd. continuous sprayer, but it is a syringe sprayer. It has a spray head with an integral fast-fill valve and an interchangeable spray nozzle. What looks like hose connections near the handle are in fact holders for additional nozzles. The piston head has one cup washer and looks like an adaptation of the valve found in Eclipse continuous sprayers. The washer is secured by a nut which in turn is held in place with a split pin.

Below. A W.T.French & Son Ltd. sprayer. Barrel length 18". Has a fixed spray nozzle and a separate fast-fill valve. Cup washer pistons. The barrel end cap forms a short drip guard. Made of brass with a gold lacquer finish. Note the logo which is a transfer. Steel piston rod. Post WW II, probably late 1950s.

Below. Apex Sprayers Ltd. Plastic sprayer based on a bicycle pump. Rubber piston washer. Integral fast-fill valve controlled by a plastic disc. Probably late 1960s.

Below. Associated Sprayers Ltd. Plastic sprayers. Barrel length 15". Uses cup washers. There is an integral fast-fill valve.

Below. Testar and Swain Ltd. Tinplate sprayer. Barrel length 15". Uses cup washers. It has a fixed rose.

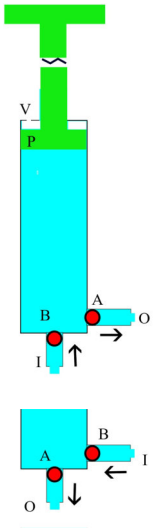
Inlet at front of barrel. No air chamber.

These pumps are a standard implementation of a force pump with the inlet and outlet close together at the front of the barrel (i.e. the opposite end to the handle). The pump can be mounted vertically or horizontally. They are single action, spraying only on the push stroke. Pumps of this type are used in sprayers of all sizes from the mobile sprayers to the handheld vaporisers. The inlet may go directly into the liquid being spayed or the supply can be through a suction hose attached to the inlet. On handheld sprayers the nozzle is usually on the sprayer or at the end of a rigid pipe. In sprayers where the pump is mounted or used vertically then the outlet is usually extended upwards to a point where a hose can be conveniently attached. The tap or trigger used to control the output is then at the end of the hose, followed by extension lances if required, and then the output nozzle. Knapsack sprayers also have hose connections and use similar taps, lances and nozzles.

W.T.French and Son Ltd. (Mysto) produced a handheld self-supplying sprayer with this type of pump and William Grimley (Eclipse Spraying Co.) has a patent (GB218773A 17 Jul 1924) for a handheld sprayer with the pump built into a container.

Vaporisers such as those made by Cromessol Co. Ltd. and Germstroyd Products Ltd. are a special implementation with the pump enclosed in a cylinder. This forms a container into which the liquid is poured before spraying. In addition to the normal pump valves, the outside container has an air vent valve. This allows air into the container to replace the sprayed liquid. Vaporisers produce a very fine spray and were used to spay disinfectants, fly spray or similar in homes, hospitals and kennels. They could also be used in gardens for spraying pesticides.

*Below. Force pump. Inlet at front of barrel. On the push stroke where the piston (**P**) is moving downwards input valve (**B**) closes and the output valve (**A**) on the outlet pipe opens. The pressure being exerted by piston (**P**) forces liquid out through the output pipe (**O**). Air is sucked in behind the piston through an air vent (**V**). On the pull stroke valve (**B**) on the inlet pipe (**I**) opens and valve (**A**) closes. This creates a vacuum within the barrel. Air pressure acting on the source of the liquid forces liquid into the barrel, ready for the push stroke.*

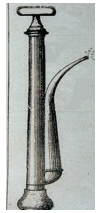


The larger sprayers and knapsack sprayers that use a force pump very often have an air-chamber (see next section). The air-chambers in these sprayers can be difficult to detect without substantial and sometimes destructive dismantling.

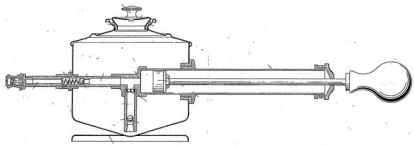
There are also pneumatic sprayers that use this type of pump to both charge and pressurise the container. These are covered in detail in the chapter on Pneumatic sprayers.

Left. An early mobile sprayer.

Right. An 18th century sprayer.



Right. Eclipse Spraying Co. Ltd. A 1924 design for a sprayer based on the principles of a simple force pump. Front valve is shown as being spring assisted.

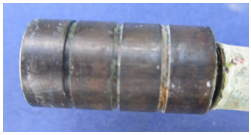


Below. W.T.French & Son Ltd. (Mysto) sprayer. Self-supplying sprayer. Hose connected to connection H. It has a back-to-back cup washer piston. Valves are controlled by ¼" balls. The nozzle is adjustable. In the 1938 catalogue. Barrel about 15" long.

Below. Germstroyd Products Ltd. Barrel length about 12". The pump is incorporated into an external cylinder which forms a container for the liquid being sprayed. The filler cap has an air vent controlled by a ball valve. This allows air to flow in to replace the liquid during spraying but prevents any liquid escaping. There is a swirl plug in the front nozzle. This isn't fixed and moves to form the outlet valve. The inlet valve is of the ball type using a ¼" ball. It controls the flow from the outer cylinder into the pump barrel.

Left. Germstroyd sprayer front end showing the inlet valve components. The ball is accessed by removing the screw (bottom).

Right Germstroyd sprayer piston. Brass piston.



Below. Cromessol Co. Ltd. Barrel length about 10". The pump is incorporated into an external cylinder which forms a container for the liquid being sprayed. The filler cap has an air vent. The inlet valve in the pump barrel can be accessed via a removable cap in the outer cylinder. The front valve is spring assisted. The piston uses small leather cup washers.

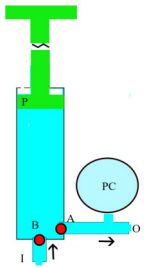
Left. Front end from a Cromessol vaporiser. Shows the front valve access screw in the pump barrel. A hole in this allows liquid to flow into the pump barrel when the valve is open. The valve uses a ⅜" ball.

Left. Front valve and nozzle components from a Cromessol vaporiser. Front valve is spring-loaded using a piston with a small washer. The Nozzle has a swirl plug (second component from left) which screws into the nozzle housing (right).

Right. H.T.Milward & Son Ltd. bucket sprayer. The pump is contained in an outer cylinder. This cannot be dismantled without damaging the sprayer. There is probably an air chamber.

Below. The inlet valve and strainer

*Below. If an air-chamber (**PC**) is fitted to a standard force pump sprayer then this becomes a continuous action sprayer. The flow of liquid is as described for the pump without an air pressure chamber apart from on the push stroke, while the sprayer is discharging via outlet pipe (**O**) some liquid is forced into the air-chamber where it compresses the air in the chamber. On the pull stoke with valve (**A**) closed the pressure within the chamber forces some liquid from outlet (**O**). Note that with the pull stroke there are two separate flows within the pump. The input powered by the piston moving within the barrel and the output powered by the air compressed on the push stroke.*



Inlet at front of barrel. With air-chamber.

These sprayers use a standard implementation of a force pump with the inlet and outlet at the front of the barrel (opposite end to handle), but in addition, they have an air-chamber between the outlet valve and the nozzle. The air-chamber can be obvious, or it can be a cylinder next to, around, or inside an outlet pipe. This type of pump is used in some handheld self-supplying sprayers but also in the large mobile sprayers. Careful design of the components will give approximately the same output on the push and pull strokes. Note that with consistent pumping some pressure will be maintained in the air chamber at all times giving an even flow. Pumps were being mounted on wheels and in containers from the early 1800s. The pumps were either based on force pumps or on the common pump. In illustrations the force pumps can often be identified by the fact that the hose connection is at the top of the cylindrical air chamber.

Below. W. Weeks & Son (Maidstone) mobile sprayer. Galvanised container with a brass pump. Holds approximately 10 gallons. Fitted with an agitator. The hose fitted to the top of the outlet tube (H). The air-chamber is built into the outlet tube. Could be used by one person if necessary but designed for two-person operation.

Right. The Four Oaks Spraying Co. Four Oaks 'External' pattern 101 knapsack sprayer. The external force pump is on the right. It uses back-to-back cup washers. The air chamber the cylinder on the left. The outlet hose trigger control lance and nozzle are shown.

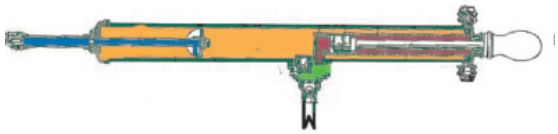
The Four Oaks Spraying Machine Co. patent GB367172A 18 Feb 1932 is for a sprayer of this type. Ernest H. Hill Ltd. produced a very futuristic sprayer of similar design. This has a tap below the air-chamber enabling it to be turned into a single action sprayer.

The W.T.French and Son, Mysto Gem 39 (based on patent GB267417A 17 Mar 1927) looks very different but works on the same principle.

Below. The Four Oaks Spraying Machine Co 'Marvel' sprayer. Note the barrel-shaped air-chamber.

Below. Ernest H. Hill Ltd. produced this sprayer. The Nesthill Handispray. The picture shows the filter but not the connecting hose.

Below. Mysto Gem 39. Diagram showing internal structure. Note that the pump barrel fits inside the main barrel (yellow) which forms the air-chamber. A special baffle prevents loss of air when the sprayer is tilted.



Below. The piston from the 'Handispray'. Cotton reel type with an additional cup washer.

Below. The main inlet valve of the 'Handispray'. It is in the lower grip and consist of an ½" ball valve with an open screw holding in the ball.

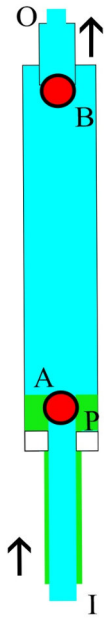
Below. The front assembly of the Mysto Gem 39. Showing the baffle.

Inlet at front of barrel. Spring-chamber.

Instead of an air-chamber, a spring can be used to provide continuous action. The spring has the advantage over the air-chamber in that the sprayer can be used at any angle. The Cooper, Pegler & Co. Ltd. *Hydra* sprayer uses as spring in this way. Cooper Peglar had the world marketing rights to the sprayers made by the French company Établissements V. Vermorel. The sprayer uses metric 10mm. brass balls in the valves which suggest it is a Vermorel sprayer.

Below. The Hydra sprayer. Full length about 27". The hose is connected to the centre of the sprayer. The pump and barrel are to the right of this. The spring is contained in the cylinder in front.

Right. The spring from the Hydra sprayer.

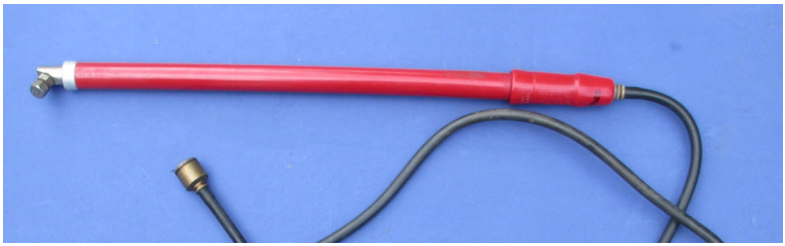


Inlet through hollow piston rod.

A hollow piston rod can be used to provide the outlet for the force pump. In operation the handle is held still, with one hand and the barrel moved to operate the sprayer. Apex Inflators Ltd. were a bicycle pump manufacturer who used their plastic bicycle pumps as the basis for a syringe and self-supplying sprayer. Their bicycle pumps already used hollow piston rods, so this is probably why they chose to use the piston rod in this way.

*Left. Diagram of a force pump with input via a hollow piston rod. On the pull stroke, the outlet valve (**A**) closes and the inlet valve (**B**) opens. Liquid is sucked in via the inlet pipe (**I**) connected to the hollow piston rod. On the push stroke inlet valve (**B**) closes and outlet valve (**A**) opens. The liquid in the barrel is forced through nozzle (**N**) on the end of the barrel.*

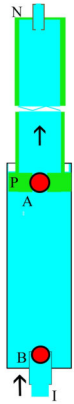
Below. Apex Sprayers Ltd. No2 self-supplying sprayer. The piston consists of back-to-back cup washers with a metal washer between them. There is a spring on the piston rod which buffers the forward movement of the piston rod on the push stroke. The piston rod is described in the advertisements as non-ferrous metal. A weighted strainer with a valve fits on the end of the hose. The valves are of the disc valve type. The inlet valve is in the strainer and the outlet valve in the nozzle.



Outlet through hollow piston rod.

A hollow piston rod can be used to provide the outlet for the force pump. In operation the barrel is held in one hand and the piston rod in the other, with the nozzle pointing away from the user. The barrel is held still, and the piston rod moved in and out giving an intermittent but powerful spray. There is very little gap between the hollow piston rod and the barrel. The design was patented in the USA in 1870 by William Servant and Josiah Whitman and the sprayer sold as the 'Whitman Fountain Pump'. Benton & Stone Ltd. (ENOTS) of Birmingham have an illustration in a 1910 catalogue of a sprayer of this type.

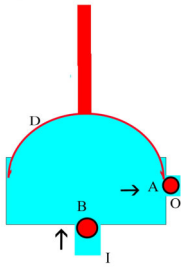
*Below. Force pump with the Outlet through a hollow piston rod. On the pull stroke the outlet valve (**A**) closes and the inlet valve (**B**) opens. Liquid is sucked in via the inlet pipe (**I**). On the push stroke inlet valve (**B**) closes and outlet valve (**A**) opens. The liquid in the barrel is forced through the piston rod and out through (**N**)*



Below. There is no manufacturer's name on this sprayer. The hose fits onto the right-hand end. There would probably have been a strainer for the end of the hose. The piston is on the end of the hollow piston rod. It is of the cotton reel type. The two valves are both of the brass ball valve type. Interestingly, in the 1876 patent, the ball is specified as being a hollow sphere, and in the sprayer illustrated the ball is in fact hollow. The internal diameter of the barrel is about 1.5" and the external diameter of the piston rod about 1". In the patent, the strainer is specified as being heavy enough to keep it in the bucket but does not have a valve.

DIAPHRAGM PUMP SPRAYERS

Cylinder pumps with a plunger are used for most pumps, however, some knapsack sprayers use a diaphragm pump.



*Left. The diaphragm (**D**) is a leather or rubber disc which fits over a chamber. The chamber is the equivalent of the barrel and has and inlet and outlet with valves. The top of the diaphragm is connected to a rod. On the downstroke the diaphragm (**D**) flexes reducing the capacity of the chamber. Output valve (**A**) is open and input valve (**B**) is closed. Liquid in the chamber is forced through the outlet pipe (**O**). When the plunger is pulled up the diaphragm returns to its original position increasing the capacity of the chamber. Output valve (**A**) closes and input valve (**B**) opens. The vacuum this creates sucks in liquid through the inlet pipe (**I**).*

Left. The W.T.French & Son Ltd. (Mysto) sprayer pictured below uses a diaphragm pump. The inlet is connected to the backpack tank. The lever (right) connects to the piston. The tank is filled with the liquid to be sprayed. The tank is carried on the users back and the user moves the lever back and forth. This pumps liquid through the outlet pipe and lance.

Right. Underside of Mysto knapsack sprayer. Showing the diaphragm mechanism.

Right. The inlet and outlet valves. Top is the outlet valve. This connects via a pipe with the hose connection. Bottom is the inlet valve connecting directly into the tank.

PLUNGER PUMP SPRAYERS

This type of pump is rarely used for sprayers. They do not have a piston forming a tight seal, instead the plunger almost fills the barrel. On the push stroke the plunger displaces the liquid in the barrel forcing it through the outlet. Because there is no piston the outlet can be anywhere within the barrel. Cooper, Pegler & Co. Ltd. supplied a stirrup pump based on a piston pump. This came with its own container. It has an air-chamber making it a continuous sprayer. The outlet is at the top of the barrel. Cooper, Pegler & Co. Ltd. had world marketing rights for the French company Établissements V. Vermorel, so possibly this could be a Vermorel sprayer. It does use ½" rather than 10mm balls in the valves which may indicate otherwise. D.B.Smith & Co. an American appliance manufacturer produced a piston pump sprayer with the outlet through a hollow piston rod.

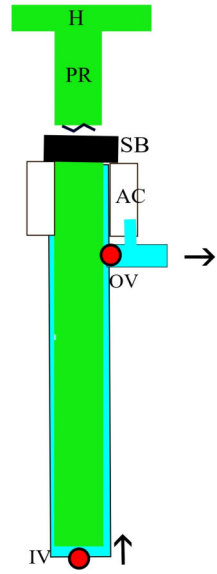
Left. Cooper, Pegler Stirrup pump.

There is a large air-chamber above the outlet. The pump attaches to the brass bucket but could be used separately. The hose in the picture is a replacement. The foot has a filter. It uses ½" balls in the two valves.

Right. Tip of plunger.

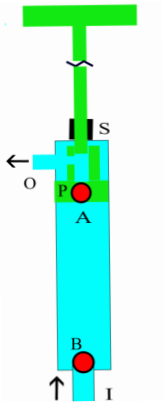
Below. Diagram of a plunger pump with air-chamber.

*On the push stroke the inlet valve (**IV**) is closed, and the outlet valve (**OV**) is open. Liquid in the barrel is displaced by the plunger rod and forced through the outlet and also into the air-chamber where it pressurises the air. On the pull stroke the pressurised air continues the discharge. The inlet valve (**IV**) opens and liquid is sucked into the barrel ready for the push stroke. The efficiency of this sprayer depends on the seal in the stuffing box (**SB**).*



COMMON PUMP SPRAYERS

*Below. Diagram of common pump. On the pull (up) stroke, the input valve (**B**) opens and the piston valve (**A**) closes. Liquid above the piston is forced out through output pipe (**O**). The vacuum created below the piston sucks in liquid through the inlet pipe (**I**). On the push stroke the piston valve (**A**) opens and the inlet valve (**B**) closes. Liquid passes through the piston valve, so that it is behind the piston ready for the pull stroke. On the push stroke the piston takes up some space in the barrel forcing some liquid out through outlet pipe (**O**).*



Common pumps (Lift pumps) can be made more compact than force pumps of similar output and this offers advantages where space and weight is important. For example, in handheld sprayers or those which need to go in smaller containers such as buckets. They also offered scope for making more effective sprayers because the input and output could be on either side of the piston. Using a hollow piston rod offered many additional possibilities. The distinguishing feature of these pumps is the valve in the piston which allows liquid to flow through the piston as it moves within the barrel. In these sprayers, there is always liquid both in front and behind the piston. This means there has to be a stuffing box (gland) where the piston rod passes through the barrel end cap into the barrel. Sprayers based on the common pump can be either single action, continuous action or double action.

Single action - piston rod of relatively small diameter compared with the barrel and no air-chamber.

Continuous action - piston rod of relatively small diameter compared with the barrel but with an air-chamber. Spraying for part of the cycle is powered by air compressed on the previous stroke. With consistent pumping at the optimum rate some compressed air remains in the air-chamber at all times, helping to even out the flow.

Double action - piston rod of relatively large diameter taking up about half the space in the barrel. For part of their cycle, they are acting as plunger pumps with the piston rod (the plunger) displacing liquid within the barrel. On both strokes spraying is powered by the movement of the piston. These sprayers can also be fitted with air-chambers above the outlet to even out the flow as the pressure changes within the barrel. A hollow piston rod in a double action sprayer acts as an additional air-chamber.

Inlet at front of barrel. Outlet above piston.

In this implementation of a common pump the inlet is at the front of the barrel and the outlet above the piston. The piston rod is of a relatively large diameter and usually hollow but blocked by the handle to form an air-tight tube. The pump works in the same way with a solid piston rod of similar diameter, but the flow is not as even. Pumps of this type are double action, spraying on both the pull and push stroke. On the push stroke the pump operates as a plunger pump with the piston rod (plunger) displacing the liquid in the barrel

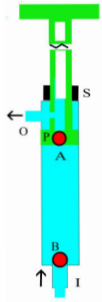
In addition to the hollow piston rod an additional air-chamber can be fitted above the outlet. This is pressurised on the pull stroke and further evens out the pressure during spraying. This air-chamber can be an extension to the barrel or piston, or a special vessel build around the top of the barrel.

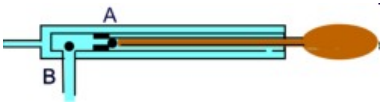
This type of pump is used in many sprayers. The pump can be incorporated into a bucket or other container or be free-standing as in stirrup pumps. The inlet valve is often incorporated into a strainer forming the foot of the pump. This goes into the liquid being sprayed.

Valves are often controlled by a brass ball, but other valve types are sometimes used. Handles can be simple 'T' or 'D' shaped. Alternatively, lever-type handles can be provided.

Allen & Freeman of Birmingham manufactured a handheld self-supplying version using this type of pump encased in an outer cylinder. Named 'The Lombard' this sprayer was designed to be held horizontal. The outer cylinder redirects the flow forward through the nozzle.

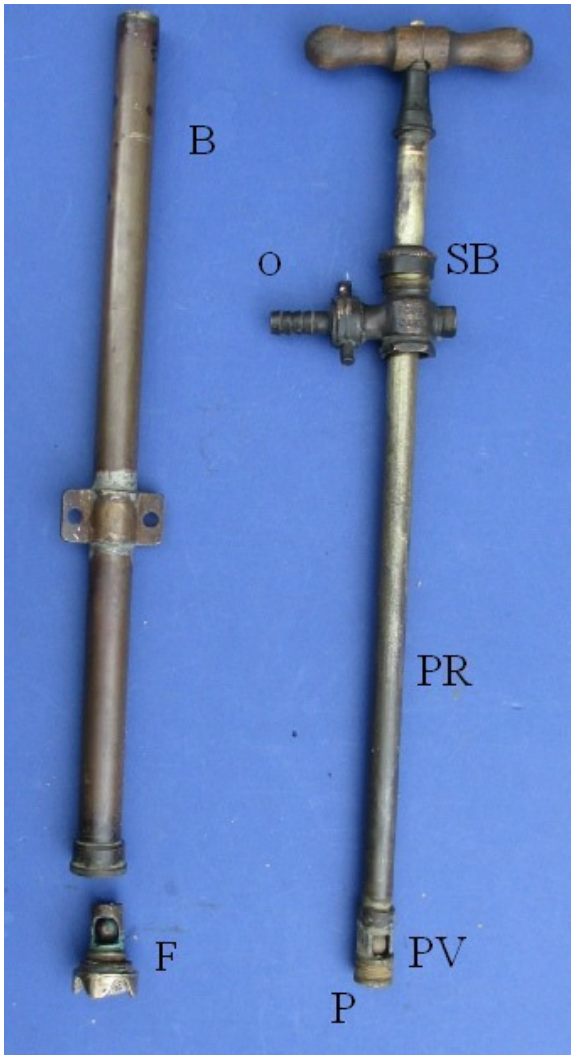
*Below. On the pull stroke the input valve (**B**) opens and the piston valve (**A**) closes. Liquid above the piston is forced out through output pipe (**O**). The vacuum created below the piston sucks in liquid through the inlet pipe (**I**). On the push stroke the piston valve (**A**) opens and the inlet valve (**B**) closes. Liquid passes through the piston valve, so that it is behind the piston ready for the push stroke. On the push stroke the piston takes up space forcing some liquid out through outlet pipe (**O**). of the output pipe (**O**). The hollow piston rod acts as an air-chamber. On each stroke some liquid is forced into the rod compressing the air within it. This helps even the flow from the sprayer.*





Left. Diagram of the Lombard sprayer. The outlet from the pump is through a hole near the handle end of the barrel. The outer barrel redirects the flow to the nozzle.

*Right. This Four Oaks Spraying Co. pump is typical of this type of sprayer. The barrel (**B**) has a mounting bracket which would have been used to attach the sprayer to a container. The foot (**F**) contains the strainer and the inlet valve. The hollow piston rod (**PR**) fits inside the barrel. The barrel end unit incorporates the stuffing box (**SB**) and the outlet pipe and connector. This unit screws onto the barrel. The piston rod moves within the barrel with the stuffing box providing a seal. The piston rod when fully pushed into the barrel takes about half the volume of the barrel. At the foot of the piston rod is the piston. In this example it is a cotton bound brass piston (known as a cotton reel piston). Above this is the piston valve (**PV**) which when open allows liquid to flow through the piston and into the gap between the barrel and the piston rod. The sprayer is largely made of brass. The valves are controlled by ½ brass balls.*



Left. A W.T.French and Son (Mysto) sprayer. It features an air-chamber fitted at the top of the barrel. The pump is fitted into a galvanised bucket. The bucket has an extension to allow it to be held still with the foot. Pump is operated with a lever.

Right. Four Oaks Spraying Co. bucket sprayer with hose (not original) and a lance. Includes a strainer. It does have a hollow piston but not the additional air-chamber.

This is the 'Farmer' pattern advertised in 1935 as being 'The Cheapest Reliable Limewasher on the Market'. 'Powerful All-Brass Pump, suitable for spraying any liquid. Complete with two Nozzles, strainer, Bucket, 6ft of Rubber Hose, Brass Spraying Arm with Stopcock, Limewashing and Spraying Nozzles'. Price £3 12 0.

Below, H.T.Milward & Son Ltd. Stirrup pump with hollow piston rod and air-chamber.

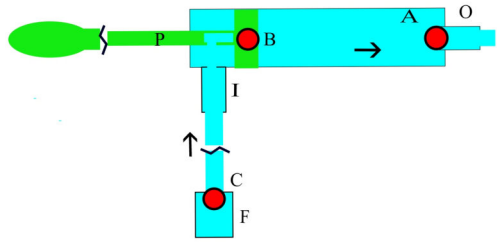
Right. WW II stirrup pump. It has a hollow piston and although not obvious, the barrel above the outlet connection forms an air-chamber.

Below. W.T.French & Son Ltd. (Mysto). Restored mobile sprayer. Capacity about 12 gallons. Pump has an air-chamber. Made about 1930. The galvanised tank fits on a wooden base. The steel frame which supports the wheel attaches to this.

Below. Allen & Freeman. Double action Lombard sprayer. The pump is encased in an outer cylinder. This redirects the output from the pump forward and out through the nozzle.

*Right. If three valves are present, then on the push stroke the piston valve (**B**) closes. The filter valve (**C**) and the front valve (**A**) open. Liquid in front of the piston is forced through the nozzle. The vacuum behind the piston sucks in liquid. On the pull stroke front valve (**A**) and filter valve (**C**) close. Liquid flows through the piston valve (**B**), so that it is in front of the piston ready for the push stroke. Either the front valve (**A**) or the filter valve (**C**) may be omitted, but at least one must be present in addition to the piston valve (**B**). Having both the filter valve and the front valve may improve performance if the valves are not fully working.*

Inlet above piston. Outlet at front of barrel. No air-chamber.



This arrangement has the inlet in the barrel above the piston (at the handle end of the barrel). Sprayers based on this approach were made by several manufacturers. The design of the valves and their placement varies. They are single action but can be made continuous action by the addition of an air-chamber.

There is always a valve on the piston and there must be at least one other valve. The filter goes into the container with the liquid to be sprayed and prevents large particles from being sucked into the sprayer.

William Grimley (Eclipse Spraying Co.) has a patent for a sprayer of this type (GB221032A dated 4 Sep 1924).

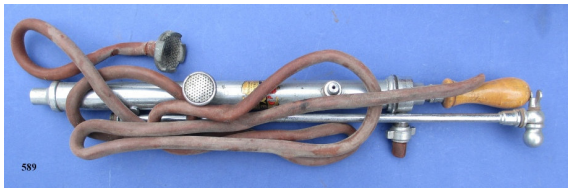
Heppell & Co. (The Laboratories 2 Eden Street London NW1) sold a painted tinplate sprayer which is based on the same type of pump. However, instead of the input being via a hose the pump is built into a tinplate container. Possibly not made in the UK.

Below. Eclipse Spraying Co. Ltd.

Right. W.T.French & Son Ltd. (Mysto). Spraying outfit. Single action self-supplying sprayer.

Right. R.Harris (Brassfounders) Ltd.

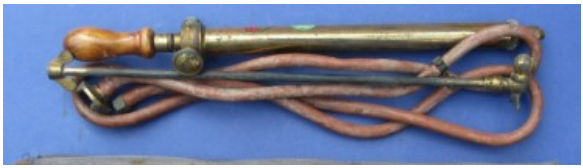
Right. W.T.French & Son Ltd. (Mysto). Spraying outfit. Chrome plated. Filter does not have a valve.



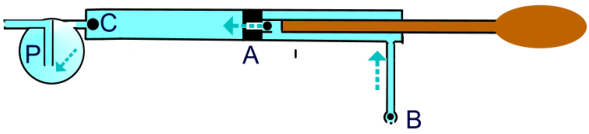
Right. Heppell and Co. sprayer. About 15" long. Uses a sliding valve on the piston.

Right. Philip B. Waldron & Co. Ltd.

Right. R.Harris (Brassfounders) Ltd.

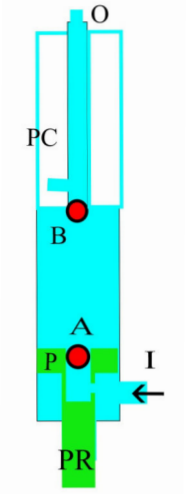


Inlet above piston. Outlet at front of barrel. With air-chamber.



Right. The addition of an air-chamber makes the sprayers continuous action.

*Below. On the push stroke with valve (**B**) open and valve (**A**) closed liquid is forced through the outlet tube. Some enters the air-chamber (**PC**) compressing the air within it. At the same time liquid is sucked in behind the piston through the inlet (**I**). On the pull stroke valve outlet valve (**B**) closes and piston valve (**A**) is open. Liquid passes through the piston valve (**A**), so that it is in front of the piston ready for the push stroke. While this is happening the compressed air forces liquid out through outlet (**O**)*



This arrangement is similar to the one described previously except an air-chamber is added making the sprayer continuous action. The air-chamber must be in front of the outlet valve and it must be arranged, so that air is not lost during normal use of the sprayer. The exact arrangement depending on the design of the sprayer and in particular whether it is to be used vertically or horizontally.

Benton & Stone Ltd. use a vertically mounted version in their foot operated *Hyject* sprayer. Produced around 1935 this was advertised for a variety of uses where mains water was not available and was supposed to be able to do an hours work in 15 minutes. Uses include car washing, firefighting, drain cleaning, and the spraying of limewash, disinfectant and insecticides. It was provided with a rubber suction hose fitted with a detachable stainless-steel strainer, a 4ft rubber delivery hose, trigger control, extension lances, and four different nozzles.

The Four Oaks Spraying Co. have a patent (GB281825A 15 Dec 1927) for a handheld self-supplying sprayer. This has the pump encased in a cylinder. This cylinder forms a pressure chamber and redirects the flow. I do not know if it ever went into production.

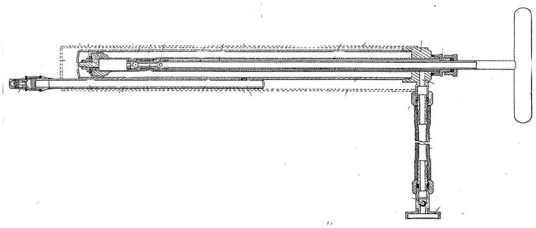
Philip B. Waldron Ltd. (Dronwal) of Birmingham adapted their Modal 1042 sprayer by adding a barrel-shaped air-chamber to the front to make a continuous sprayer.

Left. Benton and Stone 'Hyject' sprayer. Foot operated continuous sprayer. About 1935.

Below. Piston assembly from the 'Hyject'. Valve is controlled by a ball. Piston washer appears to be synthetic.

Left. Philip B. Waldron and Co Ltd. DronWal Model 1043. continuous action sprayer. (Hose not shown)

Right. Four Oaks Spraying Machine Co. From patent GB281825A 15 Dec 1927.

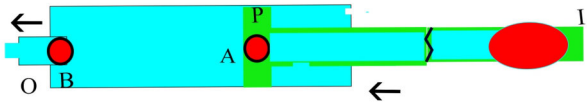


Below. Crossland & Wood Ltd. logo.

Input through hollow piston rod. Outlet at front of barrel.

This arrangement is not one which seems to be of much practical use. However, Crossland & Wood Ltd. have a self-supplying sprayer with the inlet through a hose attached to the end of a hollow piston rod. Crossland & Wood Ltd. produced a three-way spread head where the nozzle type is determined by the way the sprayer barrel is turned. Having the input via the piston rod allows the sprayer to be turned. In use, the handle would have been held stationary in one hand and the barrel moved back and forth with the other. They are single action.

*Below. On the push stroke, the outlet valve (**B**) closes and the piston valve (**A**) opens. Liquid is sucked in via the inlet (**I**). It passes through the hollow piston rod and into the barrel behind the piston. At the same time liquid in front of the piston is forced out through the nozzle (**N**). On the pull outlet valve (**B**) closes the piston valve (**A**) opens allowing liquid to flow through into the front of the barrel ready for the push stroke.*



Below. Below. Crossland & Wood Ltd. self-supplying 'Citadel' sprayer. This sprayer is known only from this incomplete example. The hose connected to the end of the hollow piston rod (right). The manufacturer's plate suggests that this was a three-way sprayer. If so, it would have an adaptation of the Crossland & Wood automatic three-way spray head. The piston uses a single forward-facing cup washer. Both valves are controlled by a ball.

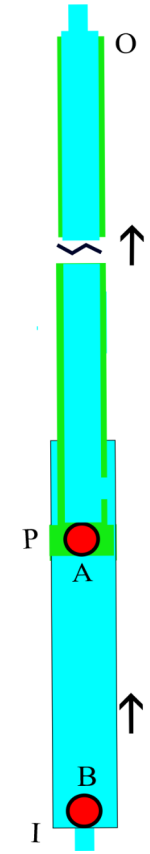
Left. The plate from the above sprayer suggesting that it had a Crossland & Wood Ltd. three-way head.

Left. A Crossland & Wood Ltd. three-way head on a syringe. Patent GB600898A. The patent was applied for on 3 Sep 1945 and granted 21 Apr 1948. Making the sprayers that use it post WW II.

Inlet front of barrel. Output through hollow piston rod.

This pump is the one associated with Solo Sprayers Ltd. These are based on the William Deniston patent (GB280003A applied for 4 Oct 1926 and granted 10th Nov 1927). A hose connects to the inlet and goes into the container of liquid to be sprayed. There can be a filter on the end of the hose, and this can contain an additional valve. This valve stops liquid from flowing out of the hose when spraying stops and backs up the other valves. Alternatively, the hose can be connected directly to a container. The key to the design of this sprayer is the fact that the external diameter of the piston rod is only slightly less than the internal diameter of the barrel. On the push stroke the piston rod and the liquid within it displace the liquid in the barrel as happens in a plunger pump. This gives a double action sprayer which sprays on both the push and pulls strokes. An air-chamber is sometimes fitted at the top of the piston rod. This helps even out the flow but is not essential. The air-chamber usually takes the form of a cylinder through which the piston rod passes. This is sealed apart from a small hole into the piston rod.

Solo Sprayers were the original manufacturer, but once the patent expired several other manufacturers started to make them.



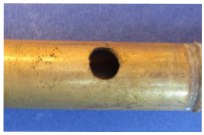
*Right. On the pull stroke when the piston rod is being pulled out of the barrel the piston valve (**A**) is closed and the input valve (**B**) open. Liquid is sucked into the barrel. At the same time liquid between the piston rod and the barrel is forced into the piston rod expelling the liquid in the rod. On the push stroke when the piston rod is being pushed back into the barrel the piston valve (**A**) is open and the input valve (**B**) closes. Liquid flows through the piston (valve) filling the space between the piston rod and the barrel and forcing liquid out through the piston rod. If an air-chamber is fitted, then on the push stroke some liquid is forced into the air-chamber compressing the air in the chamber. Air compressed in the chamber evens out pressure changes within the barrel.*

Below. Solo Sprayers Ltd. complete spraying kit. This seems to be the model closest to the patent. The vintage versions have an angled hose connection, and the strainer has a valve. The grips are wooden and shaped as seen in the picture below. Internally the parts remain similar over time but with rubber and plastic components replacing the leather ones. The 2020 version has a straight hose connection and no valve in the strainer.

Right. Solo Sprayers No. 28. Also sold as 'The Gardener'. Sometimes it seems to have been supplied with a strainer with a valve and sometimes not. It has remained much the same over time.

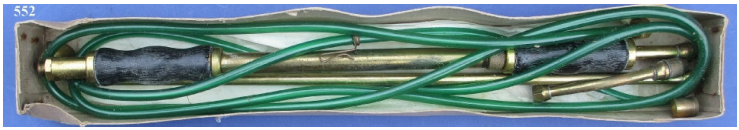
Below. Solo piston.

Right. R.Harris (Brassfounders) Ltd. double action sprayer with a W.T.French & Son Ltd. container. The sprayer has an air-chamber which doubles as a grip. The air chamber is a cylinder which fits around the piston rod. There is a hole in the piston rod concealed by the air-chamber. On the push stroke the air in this chamber is compressed.

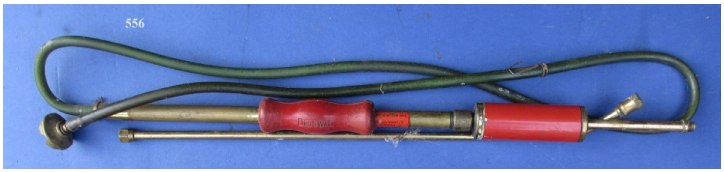


Below. W.T.French & Son Ltd. Mysto Duplex Spraying Outfit.

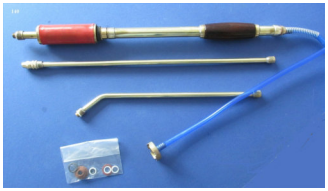
Below. Philip B. Waldron and Co. Ltd. Dronwal No. 1041 'Triumph Spraying Outfit'.



Below. Philip B. Waldron and Co. Ltd. (Dronwal) No. 1039 'Regent Spraying Outfit'. This sprayer has an air-chamber in the front grip.

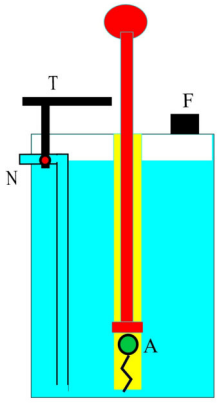


Below. Solo Sprayers Ltd. Model - 27 - 80 Mk III. 2014. With air-chamber, No valve in strainer. The sprayer works in the same way as the earlier models, but the washers and hoses are plastic.



PNEUMATIC SPRAYERS

*Below. Diagram of pneumatic sprayer with a vertical pump. The container is filled with liquid through filler (**F**) but leaving a small air space. The air pump is used to pressurise the container. The outlet valve is opened as required using the trigger mechanism (**T**). The air pressure forces the liquid through the outlet pipe and the nozzle (**N**). If the outlet is at the bottom of the container then the outlet pipe is not needed and a hose connection is provided. The outlet valve is then a trigger or tap on the end of this hose. A lance and nozzle follows this.*



Sprayers of this type are operated by air under pressure. The pump can be mounted either vertically or horizontally. In the most common implementation, the container is filled manually, and an air pump of the force pump type is used to pressurise the container, but there are sprayers where the pump is used both to charge (fill) and pressurise the container. Also, some where a separate pump is used to pressurise the container.

Vertically Mounted Air Pump.

The pump can be mounted internally or externally. UK manufacturers seem to have preferred internal pumps. The container is filled manually either through a special filler with an airtight cap or the pump is removed and the container filled through the pump aperture.

The outlet can be in the bottom of the sprayers, in which case there will be a pipe running from near the bottom of the container to the outlet. There will then be a tap or trigger to control the flow to the nozzle. If the outlet is at the bottom of the container then this normally has a hose connection. The tap or trigger will be at the end of the hose followed by the lance and finally the nozzle. Hoses can be protected with wire (armoured) to prevent damage and kinking.

The pump will normally have a single forward-facing cup washer. The valve may be of the disc type or of the ball type. In some implementations, there is a spring in the valve which assists in keeping it in the closed position on the pull stroke. In theory, liquid should not enter the pump barrel.

Sprayers of this type come in all sizes from ½pt to 4 gallons. Larger models can have air pressure indicators and pressure relief valves.

Dual Purpose Pump - Charging and Pressuring.

William Ludford of the Four Oaks Spraying Machine Co. has a patent (GB191576A 18 Jan 1923) for a mechanism designed both charge and pressurise the sprayer using the pump. The sprayer also contains a mechanism which maintains the air pressure, so that the sprayer only needs to be recharged with liquid. The Four Oaks Spraying Co. 'Weeford' patten pneumatic sprayer implements this patent. In 1939 it was advertised as 'only requires charging with air once a day'. In 1956 W.T.French & Son Ltd. offered a pressure-retaining pneumatic sprayer which the advertisement suggests works on the same principle.

Simpler sprayers offering charging and pressurising by an inbuilt pump were available, but the only ones I am aware of were manufactured overseas.

Below. W.T.French and Son Ltd. pneumatic backpack sprayer of the 1950s. Outlet is at the base of the cylinder. A hose is connected to this and then a trigger operated valve. Followed by the lance and nozzle.

Externally Charged and Pressurised Sprayers

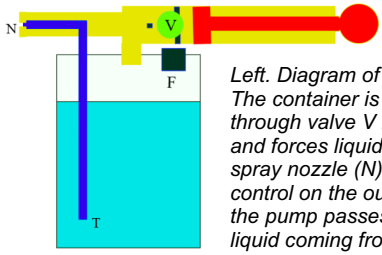
To avoid the weight of carrying an inbuilt pump it was possible to have a spray cylinder which was filled and pressurised using an external pump. The Four Oaks Spraying Machine Co. produced a Central Charge Pump. The cylinders were fitted with an input valve. The charge machine was placed over a container holding the liquid to be sprayed. A lever on the charging machine controlled whether air or liquid was being pumped in. Drake and Fletcher had used a similar concept in their Mistifier range. The cylinder could be provided with an attached pump or charged with a separate pump. The Mistifier had an internal thick rubber bag which was filled with the liquid. This protected the aluminium tank from corrosion. Filling the tank would pressurise the cylinder, but the pressure could be topped up with a tyre pump.

Below. W.T.French and Son Ltd. pressure retaining pneumatic sprayer.

Below. Four oaks charger.

Horizontally Mounted Air Pump - Atomiser

Horizontally mounted air pumps are used in handheld sprayers with a container holding up to 1 pint. They either have a filler on the container or the whole container will unscrew from the pump for filling. Containers can be made of brass, glass, or plastic. There will always be a pipe leading from the bottom of the container to the nozzle. In some of these sprayers the air from the pump just pressurises the container, but in others. some air also passes directly to the nozzle where it mixes with the liquid from the container to give an atomised spray. In most cases these sprayers do not have taps.



Left. Diagram of a pneumatic sprayer.
*The container is filled through filler (**F**). Pumping air through valve V into the container builds up pressure and forces liquid through the outlet tube (**T**) and through spray nozzle (N). There is sometimes a tap or lever control on the output. In some sprayers some air from the pump passes directly through the nozzle to mix with liquid coming from the container to give an atomised spray.*

Left. W.T.French & Son Ltd. Mysto 'Comet' sprayer. Handheld air pump sprayer.

Below. The working parts of the 'Comet' sprayer. Left the adjustable nozzle. Top air pressure release. Right the main valve controlled by a ball. There is a filter on the outlet tube.

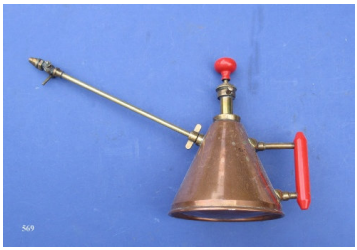
Below. Four Oaks Spraying Co. Pneumatic backpack sprayer. Capacity 4 gallons. Note the armoured hose, air pressure gauge. and leather harness.

Below. W.T.French & Son Ltd. Mysto No. 6 pneumatic sprayer. Brass container. Gold lacquered.

Left. Abol Ltd. pneumatic sprayer. Holds 1 pint. Output is controlled by a tap near the spray nozzle.

Right. Talfacto (Blackpool) disinfectant sprayer. It has a pressure release button on top.

Below. Crossland & Wood Ltd. pneumatic sprayer. Holds 1 pint. Has a built-in lance and output is controlled by a tap near the spray nozzle.



Below. Holder-Harriden Ltd. pneumatic sprayer. Holds 4 pints. Plastic adjustable nozzle, Trigger operated.

Below. Eclipse Spraying Co. Ltd. Pneumatic sprayer 6.5″ in diameter. Steel container.

Below. Benton & Stone Ltd. (ENOTS brand). Pneumatic sprayer. Holds 2 pints.

Below. R.Harris (Brassfounders) Ltd. Handheld pneumatic sprayer. Air pump barrel about 10″ long. Container capacity about 1 pint. The pump uses a ball valve without a spring.

Venturi Atomisers

In a sprayer which uses the venturi effect, pressurised air is provided by a pump. This pressurised air passes over the end of a tube which comes from the container holding the liquid to be sprayed. The resulting low pressure causes liquid to be sucked from the container where it mixes with the air. This produces a high speed mixture of air and atomised liquid. Only small volumes can be sprayed with these sprayers. The characteristics of a Venturi sprayer are that there is no airflow from the pump into the container, and that the container is not pressurised. They do not require a valve. Some perfume sprayers use this type of pump, but many use an implementation of a force pump.

Above. W.T French Ltd. Standard pattern atomiser. Tinplate sprayer, available plain or painted green. Capacity 1 pint.

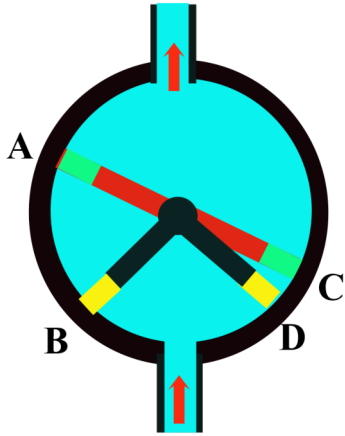
Left. Perfume spray bottle. Container 2½ inches in diameter. Air is provided by squeezing the rubber bulb.

ROTARY PUMPS

Semi-rotary and rotary pumps are used for moving liquids but not normally for spraying. However, around 1873, Pontifex and Wood Ltd (Chapter 49) have an advertisement for what looks like a semi-rotary pump mounted in a container. In 1851, the official Great Exhibition catalogue features a rotary garden pump by Augustus Siebe (Chapter 49). W H Willcox in their 1917 catalogue have a fire extinguisher/irrigator which uses a rotary pump with an air chamber. Rotary pumps do not cope well with liquids containing abrasive particles, and they are more expensive to produce. For these reasons, the use of rotary pumps for horticultural purposes does not seem to have been widespread.

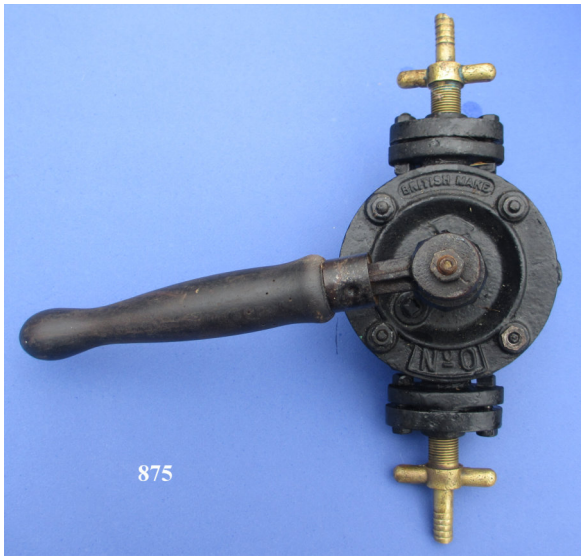
Below. Pontifex and Wood Ltd barrow sprayer with a semi-rotary pump.

Below. Augustus Siebe rotary garden engine.

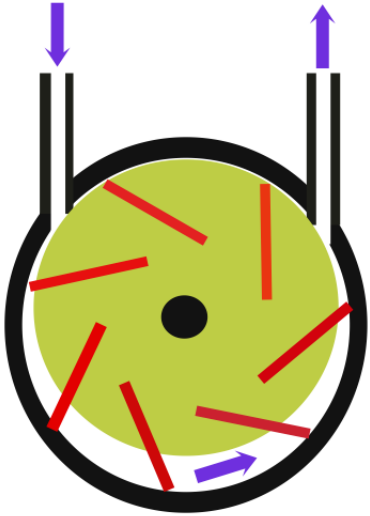


Above. Diagram of a semi-rotary pump. Within the body of the pump the black section is fixed in place, This has two flap valves shown in yellow. The red line represent the moveable part of the pump. This also has two flap valves shown in green. A handle connected to the centre of the moveable part allows it to be moved in about three quarters of a turn. First in one direction then in in the other. From the position in the diagram with the handle moving anti clockwise. Valve A is open and B closed. Valve C is closed and D is open. Liquid is forced out through the completing the anti-clockwise movement the handle is moved clockwise. Valve A is closed and B open. Valve C is open and D is closed again forcing liquid through the top outlet and drawing in liquid ready for the next cycle. Rotary pumps can be fitted with an air chamber in a similar way to force pumps.

Right. Semi-rotary pump of unknown manufacture but British Made. Housing diameter 5 inches.



Right. Diagram of a simple rotary vane pump. The number of vanes (shown in red) will vary. The simplest form of this type of pump has a circular rotor inside a larger circular cavity. The centre of the rotor is offset. The vanes are mounted in slots cut into the rotor, and have a limited range of movement so that they can maintain contact with the wall. The contact between the vanes and the cavity wall divides up the cavity into chambers. On the suction side of the pump the chambers are increased in volume causing liquid to be sucked into the chamber. On the discharge side of the pump the vane chambers decrease in volume, forcing liquid out of the outlet.



MATERIALS

Pewter

Pewter is a metal alloy composed of 85–99% tin, mixed with approximately 5–10% antimony. Copper and silver can be added as hardener but may be replaced with lead in lower grades of pewter. It was the material of choice for the early sprayers as it could be easily worked and formed into the tubes required. Often the barrel was made in sections.

Pewter was not robust enough to make the valve assemblies or plunger rods, so wood was used for these. Valves were of made of leather.

Below. A pewter sausage stuffer adapted for use as a sprayer by adding a rose nozzle.

Note the wooden plunger rod and the construction in sections.

Tinplate

Early tinplate consisted of sheets of iron, coated with a thin layer of tin. In the late 19th century milled steel started to be used as the backing material.

The main disadvantage of tin is that it corrodes relatively easily, giving sprayers made from it a relatively short life. There is a mention of a tinplate sprayers being used in 1763, but it is not likely that any from this period will have survived. However, tinplate started to be used once again in the 1950's to produce cheap sprayers and there are surviving examples of these.

Copper and Brass

Copper is not normally used for sprayers as it is a little too soft. It is sometimes used for containers, and copper tubes could be used for syringes. Brass, an alloy of copper and zinc was the most favoured material for making sprayers, because it is both corrosion resistant and sufficiently strong to make relatively lightweight tubes which form the main component of most sprayers. Brass was also used to make the valve assemblies, nozzles and plunger rods.

Below. A typical galvanised bucket. Four Oaks Spraying Machine Co.

Below. Galvanised syringe.

Galvanised Iron

Galvanised iron is similar to tinplate except that, to prevent rusting, zinc rather than tin is applied to steel or iron, The most common method is hot-dip galvanizing, in which the parts are submerged in a bath of molten hot zinc.

There are syringes made of galvanised iron, but it was mainly used to make containers for holding the liquid to be sprayed.

Steel

Steel is an alloy of iron with typically a few percent of carbon. It is used for various containers, including those used for some pneumatic and backpack sprayers. Steel containers are painted to protect them against corrosion. Steel is also used for some plunger rods.

Aluminium

At the end of the period covered here aluminium was being used for containers.

Glass

Glass bottles are sometimes provided as containers.

Wood and Paper

Wood was originally used for valve assemblies but the most common use is for handles. There is a patent for a syringe constructed of wood pulp or papier mâché, suitably waterproofed.

Other Materials

Rubber was used for hoses and leather for washers. Plastics of various types started to be used for many components in the 1950s.

PARTS AND ACCESSORIES

This chapter considers in more detail some of the components of the sprayers. It is hoped to include more information on all these aspects of sprayer construction in other volumes in this series.

Containers

Self-supplying sprayers can be coupled with a container. The sprayer plus the container were sometimes sold as a complete kit, but the containers were also available separately. Solo sprayers had a range of containers for use with their double action sprayers. These ranged in size from 1 to 3 gallons. W.T.French & Son Ltd. had a similar 3-gallon backpack container.

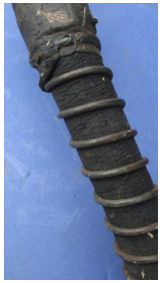
Below. Solo sprayer and container. This container is designed to be carried on the back. Others are designed to be carried over the shoulder.

Below. Solo sprayer container. Designed to be fitted to solo double action sprayer.

Hoses

Hoses are used to feed liquid from containers into some sprayers and they are also used to connect the output of sprayers to lances and nozzles. Until the 1950s hoses were usually made of rubber and often these haven't survived or are in poor condition. Plastic hoses begin to be used in the 1950s, but rubber continued to be used by some manufacturers. Hoses are sometimes protected by a spiral coil of wire. This can just be by the connections to prevent kinking, but sometimes the whole hose is protected. Hoses used for input (suction hoses) need to be able to withstand the pressure involved without collapsing. Most hoses are fitted with connectors which screw onto the sprayers. The connectors are sometimes just a push fit onto the hose, but they may be secured with wire or with a hose clip of some sort - not usually a jubilee clip (invented 1921) which suggests a more recent replacement.

Below. Armoured hose.



Handheld self-supplying sprayers normally have a suction hose, but the output is through a nozzle, sometimes at the end of a lance.

Right. Bucket clip from Solo sprayer.

Below. Typical strainer from a self-supplying sprayer.

Below. Components of a typical tap.

Below. Trigger mechanism on small pneumatic sprayer.

For mobile sprayers, bucket sprayers, and stirrup pumps the end of the barrel usually has a strainer and is placed in the liquid to be sprayed. Some have suction hoses which can be placed in any container, or a source of water such as a pond or stream.

The output from mobile sprayers, bucket sprayers, and larger pneumatic sprayers and knapsack sprayers is usually via a hose, then a tap or trigger followed by one or more lances then the nozzle. Taps may be omitted in some cases.

Strainer

There is often a strainer on the end of a suction hose. These may incorporate a valve. Handheld self-supplying sprayers may need this valve to operate. Bucket clips were provided where required to keep the strainer in the bucket. Stirrup pumps normally have a strainer at the end of the barrel.

Taps and Trigger Flow Controls

Taps and triggers are used to control the flow on some sprayers. They are necessary on pneumatic sprayers but also used on other types especially continuous and double action sprayers where the flow can continue for a short while after the user stops pumping.

Lances

Lances can be used to extend the reach of the sprayer. They can incorporate bends. They are usually made of brass with screw connections on the ends. Lightweight bamboo lances were also available. Lances for handheld self-supplying sprayers usually screw between the outlet and the nozzle. Where output is through a hose there is often a tap or trigger control and the lances will fit onto this. Otherwise, they screw directly onto

the hose connector. The smaller pneumatic sprayers often have a short lance between the outlet and nozzle. These lances are sometimes referred to as ‘nozzle extensions’ and will have a tap or a trigger.

Below. Self cleaning double limewash nozzle.

Nozzles

Nozzles for syringe and self-supplying handheld sprayers are rose, jet or spray. The spray nozzles used on syringe sprayers can incorporate a fast-fill valve. On sprayers where the nozzles are interchangeable there are usually holders on the barrel for the nozzles not in use. Some models of syringe sprayers have automatic nozzles which change the nozzle type in use as the sprayer is rotated. Rose nozzles are rarely used on the other types of sprayer.

Below. Spray nozzle. The swirl plug bottom fits into the housing. The grooves in he swirl plugs then form the atomising tubes through which the liquid is forced. The gap between the top of the swirl plug and the housing forms the atomising chamber where the liquid is broken into small drops.

The smaller handheld sprayers including the smaller pneumatic sprayers tend to have spray nozzles which are not interchangeable. The spray on some of these can be adjusted by turning the nozzle cap. This changes the size of the atomising chamber and adjust the spray in a range from very fine to a jet. The larger sprayers often have interchangeable nozzle usually with the choice a spray or a jet. Some are adjustable. There are nozzles where the angle can be adjusted. For use with limewash there are anti-clog self cleaning nozzles.

Bucket Strainers

Sprayers designed for spraying limewash were often supplied with a sieve-like strainer through which the limewash could be poured into the container to remove any lumps. Traditionally limewash was the principal finish applied externally and internally to historic buildings, quite often applied directly to the masonry or brickwork and more commonly to pre-applied lime coatings (i.e. plaster, render etc.).

Harness

Knapsack and larger pneumatic sprayers were provided with a harness, so that they could be carried on the users back. They were usually made of leather.

Handles/Levers

Below. Typical 'file shaped' handle.

Sprayers designed to be used horizontally usually have file shaped or rounded handles. These are usually made of wood, but plastic was used in some later sprayers. Those for use vertically have 'T' or 'D' shaped handles made of wood or metal. Larger sprayers may have a lever mechanism, normally made of steel with wooden handles.

On handheld self-supplying sprayers there may be grips on the barrel and/or the piston. These are used to hold and operate the sprayer.

Knapsack sprayers have a simple lever which is moved up and down to operate the sprayer.

Below. Agitator in a mobile sprayer.

Agitators

Some knapsack sprayers were provided with agitators, but they are normally a feature of the larger mobile sprayer. They consist of a paddle connected to the lever used to operate the sprayer. They stop the liquid in the spraying tank from settling or separating.

Below. Eclipse Spraying Co. Ltd. lance with trigger control and various bends and nozzle.

Manufacturers' Marks and Logos

Below. W.T.French & Son. Ltd. Mysto logo. Transfer on a gold lacquered syringe barrel.

Manufacturers' marks can be engraved or embossed on the sprayers. They can be on metal plates attached to the barrel of the sprayer or applied as transfers (decals) or stickers onto the sprayer. Metal plates or engraved details were most commonly used on early sprayers. Decals were invented in the UK in the 1850s, but do not appear to have been used on sprayers until after WW II.

A decal (also known as decalcomania or transfer print) is a design that is normally printed onto a special type of paper and then transferred onto a surface, typically by soaking in water. This allows the decal to be easily applied. Stickers are designs that are printed directly onto a backing material. In the period we are covering the backing material was usually paper.

Decals are generally considered to be more durable than stickers because they are printed onto a special type of paper that is designed to withstand wear and tear. In contrast, stickers are printed directly onto a backing material, which can be prone to tearing and peeling over time.

With stickers, it is often possible to see the paper layer even when the printing has worn off. In both cases the presence of a worn sticker or decal can often be seen as a cleaner area. It is particularly important that during the cleaning of the sprayers these marks are retained. The shape and remnants can be sufficient to identify the manufacturer. Some manufacturers also marked accessories such spare nozzles, bends and caps.

Unfortunately, not all sprayers are marked.

Manufacturers' Marks and Logos

Right. Four Oaks Spraying Co. Undentable syringe with markings on the barrel end cap.

Left. Abol Ltd. Logo embossed into a spray head.

Right. Abol Ltd. Logo on a plate attached to a syringe.

Right. The Stonehouse Works Co. Logo on a galvanised bucket.

Left. H.T.Milward & Sons Ltd. Iron Arm logo from a galvanised bucket.

Right. G. & W. Purser. Percy Rubra logo from a syringe. RUBRA is RUBber and BRAss.

Below. R.Harris (Brassfounders) Ltd. Spraygen sticker from a syringe.

Guide to

Vintage Sprayers

Michael Weideli

Volume 2

Syringe Sprayers

Version 3.4 - February 2026

Most of the information in this document is drawn from my own collection of sprayers and related documentation. A small number of images originate from Grace's Guide to British Industrial History. Wherever these appear, I have clearly indicated their source. If you wish to use those images, please obtain them directly from Grace's Guide and follow their usage policies.
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INTRODUCTION

Below. A simple sprayer of the 1950s. With a rose and a jet nozzle.

This book is about garden syringe sprayers with particular reference to those manufactured in the United Kingdom. The more robust and larger syringes were no doubt made for use by professional growers, while the cheaper basic syringes were made for use by amateur gardeners. However, there would have been considerable overlap, so 'garden' is used in its widest sense covering use in gardens of all sizes, and in both amateur and commercial greenhouses.

I first became interested in syringe sprayers when I bought one at a car boot sale and managed, without too much difficulty, to get it to work. I immediately found it of great use in the greenhouse as it was easier to use and more reliable than the pressure and hand sprayers I had been using. I was familiar with a simple syringe because as a child in the 1950s, my father had one for spraying roses. However, my car boot purchase was a little different. It produced a fine spray rather than the coarse spray of our family rose sprayer and had a valve on the spray head which made filling easier. The piston was cotton string bound around what looked like a 'cotton reel', rather than the back-to-back cup washers I was familiar with. It also had what I later came to realise, was a drip preventing sleeve. All this made me curious, so I started looking on the internet for more information and also on Ebay to see what was available. Originally my interest was in buying the sprayers and getting them to work, but this rapidly changed, and I am now more interested in the way the sprayers developed and the manufacturers who made them.

GARDEN SYRINGES

A syringe is a pump used to control the delivery of air or liquid and a garden syringe just a special adaptation of a syringe making it suited for spraying liquids in the garden. Garden syringes usually have a larger capacity than those used for medical purposes, and they are usually equipped with a jet, a rose or a spray nozzle.

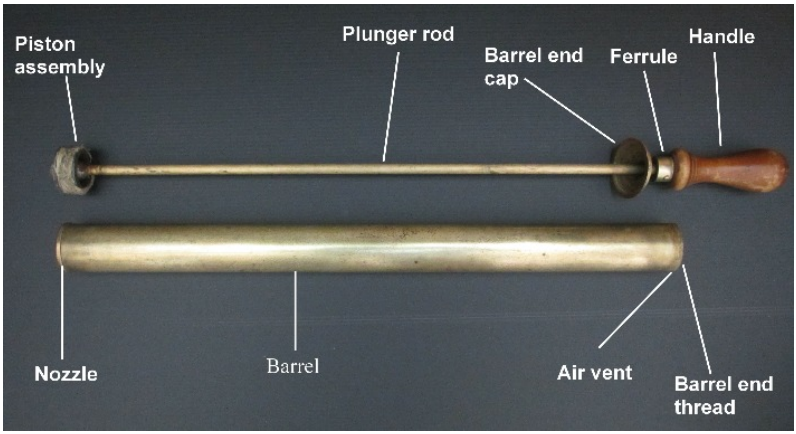
There are a number of sprayers and pumps which look superficially like garden syringes. These include syringes used for medical or other purposes, self-supplying sprayers, vaporisers, and also non sprayers such as air pumps. In early documents and registered designs, the term 'syringe' had a wider meaning and includes continuous action sprayers and pumps (also known as garden engines). Self-supplying sprayers have a hose which runs from the sprayer to the container (bucket). Working the piston back and forth sucks liquid from the container and sprays it from the nozzle. These are most likely to be confused with syringes when the hose is missing. Vaporisers look superficially like syringes but have a reservoir which is filled by pouring in the liquid before use. Some air pumps used for pumping up footballs or other equipment can also look like syringe sprayers.

The name syringe comes from the Greek 'syrinx' meaning tube which well describes the key component of a syringe. Given a tube of constant diameter it is possible to construct a syringe with just a few components.

The terminology used in this book is mostly based on the terms used in patents and literature of the early 20th century. The exception to this is 'Cotton Reel Piston' which is a term used by recent collectors. Manufacturers referred to these in various ways, usually as 'Cotton Packed Plungers' or similar.

Below. A vaporiser. Used in hospitals, kennels etc. for disinfecting. About 1 ft. long. Liquid is poured into the barrel before use.

Below. A self-supplying sprayer. The barrel is about 2ft. long. Note the hose connection bottom left.



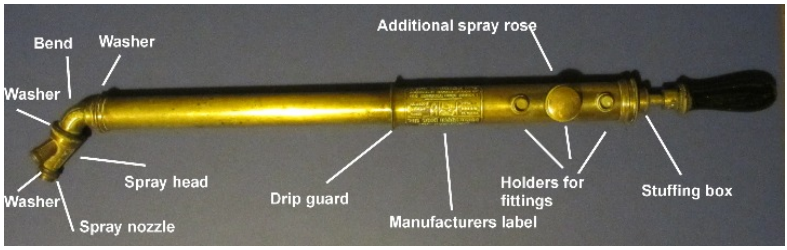
Above. The components of a simple syringe.

In their simplest form garden syringe sprayers are made up of a plunger fitting tightly in a tube called the barrel. The plunger consists of a metal rod with a handle on one end and the piston assembly on the other. One end of the barrel has a nozzle through which the liquid is sucked into the syringe and through which it is expelled. The other end has a barrel end cap (also called the plunger collar) through which the plunger rod passes. The barrel end cap unscrews so that the plunger assembly can be maintained. There is usually an air vent (a small hole) near the barrel end cap, which allows air to escape or enter as the plunger moves within the barrel. The syringe is used by placing the nozzle end in the liquid and pulling back the plunger to fill the syringe. The liquid can then be expelled by pushing the plunger.

It was apparent from earliest times that this basic design could be improved upon. Firstly, there was a need to make the syringe more versatile, initially by having exchangeable nozzles and later with more complex mechanisms. Next there were problems with liquid being forced around the piston on the push stroke. Finally, the multiple tiny perforations in the rose nozzles could make filling difficult and rose nozzles were not capable of producing very fine sprays.

These and other problems with the basic design produced a variety of solutions leading to more complex syringes and a number of special designs.

Below. The components of complex syringe.



Several other features may be present or not depending on the model. Nozzles may include jet, rose or spray heads. These may be fixed in position or interchangeable. Spray heads may have replaceable caps having different size holes to give alternative sprays. Provision may be made to store these additional fittings on the barrel or drip sleeve. A removable bend may be fitted to make spraying under leaves easier. Removable fitting will have washers. If fitted, a drip preventing sleeve will stop drips from the spray from running onto the user's hands. A manufacturer's label may be on the spray head, on a brass plate, punched into the barrel or applied as a transfer. A stuffing box filled with greased string may be fitted to provide a seal between the plunger rod and the barrel end cap. An air vent will usually be present but may be hidden by the drip preventing sleeve. There may be a pipe from the air vent running part way down the barrel or into a drip protector. This partly fulfils the purpose of the drip sleeve. Handles fit on the end of the plunger rod and are normally as illustrated above but can also be 'D', 'O' or T' shaped. There is sometimes a rubber buffer washer on the plunger rod between the handle and the barrel end cap. Internally there may be a spring on the plunger rod.

Below. The plunger rod and components. The spring provides a buffer when the plunger is pushed in.

Below. A cotton packed piston (cotton reel piston) with packing removed.

Below. Back-to-back cup washers.

Below. Cotton reel piston with padding. Supplemented with a forward-facing cup washer.

The piston assembly will be fixed to the end of the plunger rod. There are two common types of pistons. The cotton packed piston which because of its shape is generally known as the 'cotton reel' piston and the cup washer piston made up of two back-to-back leather cup washers. Other less common types of piston are covered in the chapter on Plungers and Pistons. There are five chapters covering all the components in more detail. Also covered are the special features found on some syringes. Most of these are aimed at making life easier for the user and include:

- *Adjustable plungers - an attempt to deal with the problem of cup washers wearing out and no longer forming a tight seal.*
- *Adjustable bends - various ways of making it easier to spray at a chosen angle.*
- *Automatic nozzles - quick ways of changing from jet to spray or between jet, rose and spray.*
- *Adjustable sprays - ways of changing the pattern and intensity of the spray from a spray nozzle.*
- *Automatic bends which change the direction of the output when the syringe is turned.*
- *Filters to prevent clogging of nozzles.*
- *Grips on barrel or drip preventer.*
- *Undentable syringe - helps to stop damage caused by denting*.

HISTORY OF GARDEN SYRINGES

This chapter is an overview of the development of garden syringes. It is divided into ten periods. However, this is for convenience only. While there are some important milestones in the development of syringe sprayers, new inventions and discoveries were often slow to replace established approaches. In many cases the old and the new continued alongside one another for many years. Sometimes this was because of patents and sometimes because the developments were not of value in all situations. For example, the basic syringes with a simple rose and jet nozzle were more than adequate for most spraying tasks and very cheap, so they were never totally replaced by the more complicated spray nozzles and attachments. The development of individual components is covered in later chapters.

Below. A pewter sausage syringe. These could be adapted for use as garden syringes.

The Ancient World – The Romans

One of the earliest descriptions of a syringe is by Hero of Alexander (10-70 AD) where he describes a syringe as a device for the sprinkling and dispersal of water. Syringes were known to be in use in Roman times for various medical purposes and in use in India in religious ceremonies. There seems to be no direct evidence that syringes were used in gardens in the ancient world, but they were definitely using pesticides, so it is not possible to rule out horticultural use in some form. I believe that people are very inventive, and it would have been easy to adapt a discarded medical syringe for garden use if there was a need. Also, I am not surprised at the lack of evidence for this as even today sprayers are often excluded by gardening authors when writing about or illustrating gardening tools. A quick check on my bookshelf revealed that of the ten gardening books which mention tools only one mentions sprayers.

Below. A brass medical pump.

15th and 16th Century – Medical Syringes - Multiple Use ?

The use of brass syringes for medical purposes is mentioned in 1425 and 1541, but again there is no mention of the use of syringes in the garden. I would imagine that the situation was similar to Roman times in that pesticides were definitely being used and that the use of syringes to apply them can't be ruled out. The use of enema syringes is documented for this period, and it would be easy to adapt an enema syringe for use in the garden – perhaps for watering plants on greenhouse shelves outside the reach of the watering can (then known as the watering pot). The use of brushes to apply pesticides is also documented for this period.

Below. A syringe. Probably for oil, tallow or wax. Easily adapted for use in the garden.

17th Century – The Advent of Garden Sprayers

In the early 17th Century, there is the mention of a small pump being used to spray trees. This could have been a syringe, but equally it could have been a self-supplying sprayer. Either way it suggests that spraying was taking place, and it would be reasonable to assume that syringes were being used in the garden. Syringes also had medical and veterinary uses and were used in the kitchen, laundry and workshop, so it is sometimes difficult to be sure what the intended use was.

Mid to Late 18th Century – The Blacksmiths

In 1763 there is a record of a tinplate sprayer being used for applying pesticides. I suspect tinplate is just one of the materials being used at the time. It would seem that until the latter part of the 18th century syringes were of a simple design, basically a straight tube with a piston and a rose or jet nozzle. Sprayers like this could be made by blacksmiths or other metal workers using whatever materials they had to hand.

Pewter (which is mainly tin with some copper and other metals) was often used in early syringes. It would appear from illustrations that the barrels were not always made in one piece but with sections of tube joined together. There is very little detailed information on the construction of the pistons. The patent for back-to-back cup washers is dated 1900, so the most likely early designs were of the 'cotton reel' type packed with cotton or perhaps leather. I do not think that the use of leather washers can totally be ruled out, because leather was in use at the time in larger pumps (eg. bilge pumps).

Below. A copper syringe 14"x1.5". Made in the 1950s. Syringes of this design would have been made by local blacksmiths long before this using materials at hand.

The nozzles in use seem to have been limited to the rose and jet type. Fine sprays were obtained by using a large number of very fine perforations. By the end of the 18th century the difficulty in filling the syringe through tiny perforations appears to have been overcome by using a central fast-fill valve. The early valves were controlled by a leather washer. Some of the early syringes appear to have had a stuffing box (gland) to seal the junction between the barrel end cap and the piston rod, others do not. Handles on the early syringes were either metal, normally 'T', 'D' or 'O' shaped or in wood in a 'file handle' shape as seen in the picture right.

Early 19th Century - The Scientific Instrument Makers

The swirl or atomising chamber had not yet been invented, so very fine sprays were produced by a rose with tiny perforations. For this to be effective a fast-fill valve was needed and the concept of these seem to have been understood. Early fast-fill valves were based on leather washers, but in 1819 John Read patented a fast-fill valve based on a ball. John Read started work as a gardener in Horsmonden Kent and no doubt used syringe sprayers in his work. In 1819 he invented a syringe with a fast-fill valve controlled by ball valve. The syringe could be used for watering

Below. Read's patent syringe with a fast-fill valve controlled by a ball.

plants and also for administering enemas. He used the valve invented for the syringe in self-supplying and barrow sprayers and also in a stomach pump for which he is most famous. In 1847 John Read was succeeded Richard Read (their relationship is unclear). There are entries for Richard in the records for the Great Exhibition of 1851 and for the London Exhibition of 1862. The 1862 entry includes a picture of four types of sprayer. John and Richard are in the census for 1841 and Richard in the census for 1851,1861 and 1871 - in all cases still as a surgical instrument maker. In 1881 Richard is shown as a retired surgical instrument maker. Richard moved to Kingston Upon Thames sometime after 1851, but it is not known if the business remained in London. As far as I can tell the syringes were made in copper or brass. John Read also patented a detachable bend with a rose nozzle. The internal drawing does not show the piston clearly enough to be sure of the design, however, I think it is most probably a brass 'cotton reel' piston. In the Read's continuous sprayer of a similar period, the piston is of the 'cotton reel' type and syringes I have which could date from around this time use a similar short 'cotton reel'.

In 1829 Duncan MacDougall patented both a removable bend and also a fast-fill valve based on a leather flap. He made great play on the fact that the valve was in the centre of the rose, which suggests that in other designs of the time this was not the case.

Augustus Siebe is best known for manufacturing diving apparatus, however, he also manufactured high quality garden syringes. His syringe of 1835 incorporates an adjustable bend, a fast-fill valve on the side and an adjustable nozzle, The mechanism used for the fast-fill valve is unknown. The nozzle appears to have been capable of producing a jet and two different rose sprays.

John Warner & Son Ltd, produced a basic syringe with a rose nozzle which used a fast-fill valve, based on a flexible disc.

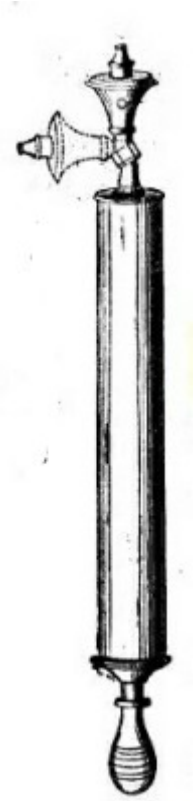
Below. Warner's disc valve syringe

Handles were generally of wood, but metal handles of various shapes were also still in use. Chadburn Bros., makers of brass instruments and famous for telescopes, seem to have started trading before 1841 and definitely produced syringes as they have a registered design in 1842 for a syringe with a hollow handle for holding the various nozzles (grates and points in their terminology). The design shows a syringe with exchangeable nozzles and a separate fast-fill valve.

At this time makers marks are normally engraved into the barrel or on a separate metal plate soldered onto the syringe.

Below. Chadburn Bros, Sheffield 1842. Syringe with hollow handle.

Below. Augustus Siebe syringe.



Mid and Late 19th Century - The rise of the Brass Founders - Mass production

By the middle of the 19th century Augustus Siebe seems to have moved into more specialised areas. John Warner and Sons Ltd were still making garden pumps, although syringes are not mentioned in their 1870 advert. Richard Read exhibited sprayers at the London Exhibition of 1862 but in the 1871 census is shown as retired.

Below. Logo of Ernest H Hill, Sheffield,

G & W Purser Ltd. of Birmingham mention of patented drip preventer.

The coming of the railways in the 1850s fostered mass production and opened new national markets. Benton & Stone origins go back to 1814 and by the 1840s they were making syringes. Ernest Hill started trading in 1841, Thomas Hickin in 1845, William Cooper in 1852, and W.T. French in 1865. In 1881 W.T. French is known to have employed three persons for the purpose of making syringes.

The period between 1860 and 1890 appears to mark the transition from the high quality and very expensive syringes to the mass produced and relatively cheaper syringes of the new manufacturers. No doubt, however, the true picture is much more complicated than this, as in 1840 Richard Read was complaining about inferior copies of his syringes. I suspect there were many small brass founders producing syringes as part of their range, but because their syringes were probably unmarked and only sold locally, we will never know.

At the very end of the century a number of new manufacturers come to the fore, including many who will later become major players. Among them Benton & Stone Ltd, G. & W. Purser Ltd, and the Four Oaks Spraying Machine Co.

Makers marks continue to be engraved into the barrel or on a separate metal plate soldered onto the syringe. Some additional parts have makers marks (eg. bends and nozzles).

Late 1800s to 1910 – The age of innovation

Federick Cooper of Handsworth patented the drip protector in 1881. This was taken up by Benton & Stone Ltd who also implementing patents for other innovations. These include the adjustable plunger and an automatic nozzle which enabled the user to change from a jet to a spray by turning the syringe. Spray nozzles start being introduced around this time. These were also known as cyclone or eddy chamber nozzles.

Forcing the liquid though one or two fine tubes (the atomising tubes) into an atomising or swirl chamber before it left the syringe a very fine spray could be created.

The idea for this seems to have come from the USA in the 1850s. It was first taken up by Vemorel in France for larger sprayers but not applied to syringes until near the end of the 1800s. In 1899 Albert E. White (later ABOL Ltd) has a patent for a spray head.

In 1900 John William Davenport (103 Withington Road Manchester) patented the idea of using two back-to-back cup washers (bucket plungers) as the piston assembly. There is no indication of an association with any particular company, so how he progressed the idea is not clear. Possibly he licensed or sold the idea to one of the syringe manufacturers. The move to cup washers does not appear to start until some years after this. In 1903 The Four Oaks Spraying Co. patented an undentable syringe. The syringe barrel is enclosed in a corrugated brass shell which prevents denting. In 1907 W.T. French has a patent for a spray head which includes a spray nozzle and a conical valve. In 1910 G & W Purser has a patent for a syringe which allowed the spray to be changed from ahead to angled by rotating the syringe. Makers marks continue to be engraved into the barrel or are on a separate metal plate soldered onto the syringe. Some components (eg. bends and nozzles) have patent numbers in addition to the makers marks.

Below. An early ABOL spray head. Note that the fast-fill valve does not have a removable cap, and it has a Cooper's drip preventer

Below. A Four Oaks undentable syringe.

1920 to 1930 – Integrated Spay Heads and Other Inventions

Sometime in the 1920s the spray head with an integrated fast-fill valve appears. There are a number of different designs, but none seem as effective as the separate fast-fill valves, so their use seems restricted to syringes with a barrel diameter of one inch or less.

Below. A typical spray head with an integral fast-fill valve.

Below. A RoseNjet sprayer

The idea may have been around for some time but not proceeded with because of the efficiency of the separate fast-fill valves and the fact that larger syringes were more in demand. In 1924 R.Harris (Brassfounders) Ltd produced a sprayer (the ROSENJET) which allowed the user to change from a rose to a jet nozzle by rotating the barrel. This syringe seems to have continued in production for many years and was certainly available in 1942 but had gone from their catalogues by 1960.

In 1935 Benton & Stone Ltd patented an adjustable plunger. The patent was for a piston made of rubber which could be compressed to take up wear. It was also implemented using several separate leather washers.

Left. The components of a Stone's adjustable plunger.

Makers marks continue to be engraved into the barrel or are on a separate metal plate soldered onto the syringe. Some components (eg. Bends and nozzles) have patent numbers in addition to the makers marks.

Apparently, shortly before WW II, Sutton Seeds were advertising a syringe which used the 'Read's patent ball valve'. I think this refers to the design and not to a syringe manufactured by Read's. This does, however, illustrate how syringe design had changed little in a 100 years.

Left. A Mysto (W.T. French) bend.

1940s and 1950s

The move from the 'cotton reel' type pistons to cup washers seems to have taken place gradually from the mid-1920s. 'Cotton reel' type pistons do allow some leakage on the push stroke. To overcome this some manufacturers placed a forward-facing cup washer in front of the 'cotton reel'. The move to double cup washers (bucket plungers) was made on syringes which otherwise look identical and at different times by different manufacturers. Possibly some models in a manufacturer's range were changed before others. W.T. French & Son (Mysto) in their 1948 catalogue have both types in their range of sprayers.

During WW II syringe production would not have been a priority and the brass founders switched to producing items for the war effort. Following the war manufacturers seem to have tried to reintroduce their pre-war products, which included syringes with 'cotton reel' type pistons. As a rough rule a sprayer with a cup washer piston can be assumed to be post WW II.

In 1946 Crossland & Wood Ltd had an automatic three-way sprayer sold with the slogan 'Jet, Rose or Mist at the turn of the wrist'. This may have been available pre-war.

'Adam' the gardener in the 1946 newspaper strip illustrates both an adjustable syringe and a standard syringe. The adjustable syringe has a spray nozzle, fast-fill valve and a drip preventing sleeve. The spray is adjusted by a wing nut. The standard syringe has interchangeable rose and jet nozzles. Both types obviously had their place in the garden.

In the 1950s the production of relatively inexpensive brass sprayers for the mass market starts to gather pace, fuelled by the growing interest in home gardens.

Below. A Mysto (W.T. French) sprayer. Sprayers of this type were made both pre and post WW II. They have a cotton reel type piston.

Below. The logo from a 1950s Mysto sprayer.

These cheaper sprayers usually had fixed spray heads using integrated fast-fill valves. Lacquered gold effect finishes became common, with paint transfer makers logos. The older ranges still continued to be made for the more serious gardener. Cup washers had replaced the 'cotton reel' type pistons. This meant that there was less need for the drip guards or stuffing boxes, so these could be dispensed with to save cost.

Below. A Mysto (W.T. French) sprayer with a gold finish and spray head with an integrated fats fill valve. 18"x1".

Better quality syringes continued to be produced and there were still some innovations. 'Rubber 'O' rings capable of providing a seal had been developed during WW II and these were used on a few syringes to provide an adjustable nozzle. Previous attempts with adjustable nozzles using leather washers were not very successful.

Late 1950s to 1980s – Cheap and Cheerful

In the late 1950s in an effort to compete with overseas imports some very cheap plastic and tinplate syringes were produced. Apex Sprayers Ltd part of Apex Inflators Ltd, a bicycle pump manufacturer adapted its pumps to make simple but effective sprayers. Colourful plastic handles replace the wooden ones in some manufacturers' ranges.

Left. Apex Sprayers Ltd. No.1 syringe.

Right. Plastic handle from a Spraygen sprayer.

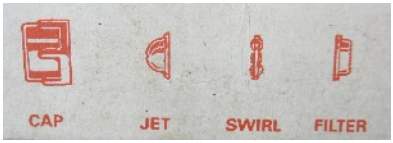
Tinplate sprayers came in various colours and had attractive designs. They normally had fixed spray heads with integrated fast-fill valves.

Below. a tinplate sprayer.

The introduction of the plastic pressure and hand pumps in the 1960s heralded the end of the syringe sprayers. Manufacturing of syringe sprayers continued into the 1970 but with manufacturers limiting production to their most popular models. Some of the manufacturers were still officially trading into the 1970s, but it would seem that syringe production had ceased.

Personally, I think the syringe sprayers still have a place in the garden. The plastic hand pumps seem to be made to last for just about one season. Pressure sprayers require filling and pumping up before use. Syringes are more reliable and easier to use for many tasks. Fortunately, the quality of those made over the past 100 plus years means that there are plenty still about in working order for those who appreciate them.

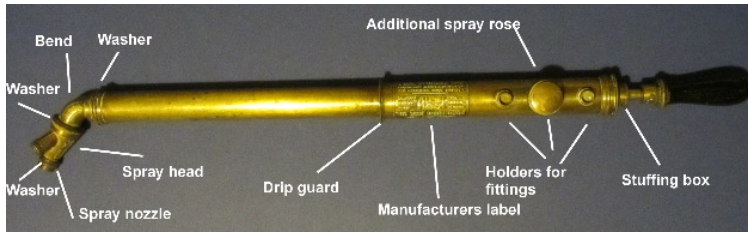
Below. This plastic sprayer dates from after 1966 when Harris (Brassfounders) Ltd changed their name to Spraygen Sprayers Ltd. The syringe is almost entirely made of plastic, with the only metal part being the 'jet' component. Definitely designed for the throwaway society.



COMPONENTS

The following chapters look at the various components of garden syringes and consider how these have evolved and developed.

The syringe pictured below has most of the features found on the best general-purpose syringes produced from 1900 to 1970.



Below. Brass Spraygen sprayer. 12”x1”.

However, many other designs continued to be made. For example, for some applications, a spray head offers no advantage, so syringes with just rose and jet nozzles continued to be produced. Even after the original patents had expired new ideas were not necessarily taken up by other manufacturers. In some cases, manufacturers had found alternative solutions and in others the enhancements did not contribute very much or caused other problems.

See the following chapters for further information.

Barrels - Barrels and associated components.

Drip Guards - Drip Protectors and preventers. Plungers and Pistons.

Nozzles.

Sundry Parts - Bends, filters, washers, boxes and baffles.

BARRELS

Syringe barrels can be made of any material which can be formed into a tube providing it is strong enough to resist the pressures involved and it can resist corrosion from the liquids used. Early sprayers were probably made of pewter, an alloy traditionally composed of 85–99% tin mixed with copper, antimony, bismuth, and sometimes lead. Pewter is easy to work, but it is a fairly soft alloy and not ideal for garden syringes. Syringes made of tinplate or galvanised metal are light and strong but corrode quickly. Tinplate syringes are mentioned in 18th century literature, but those that survive are generally later in date (1950s). Similarly, galvanising was patented in 1826, but early galvanised syringes are unlikely to have survived.

Copper is sometimes used but needs thick walls for strength which can make the sprayers heavy.

Below. A copper syringe. Made by a blacksmith.

Plastic is also a suitable material but is not particularly robust. The use of plastic by UK manufacturers starts in the 1950s. Plastic, tinplate and galvanised syringes usually have wooden barrel end caps. which are held in place with small screws. The front cap can be plastic or metal with a brass or plastic nozzle, usually with brass internal components. The plastic syringe by Apex Inflators Ltd is based on a bicycle pump. It has a plastic barrel end cap which screws into the barrel and a chrome plated nozzle fitted directly onto the barrel.

Below. A galvanised syringe of the 1950s

Below. Nozzle of an Apex No.1 sprayer.

Brass (an alloy of mainly copper and zinc) offers the best compromise being relatively easy to work with, fairly strong and with good resistance to corrosion. Brass barrels can have both front and rear threaded collars which are soldered on. The thread for the barrel end cap is commonly machined directly onto, or less often into, the barrel.

Below. Barrel front end with the thread on a separate collar.

The nozzle can also be soldered directly onto the barrel, but if it is detachable the collar is needed for strength.

Below. Collar onto which the barrel end cap screws. Note the air vent.

Barrel lengths vary from a minimum of around 10 inches to a maximum of 22 inches. Diameters vary from about ⅞ inches to 2 inches with capacity ranging from about quarter of pint to one and a half pints.

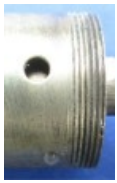
The walls of a typically barrel are about 1/32 of an inch thick, but some robust sprayers have a barrel wall 1/16 of an inch thick. Barrel walls are not as robust as they look and are subject to bending, denting and splitting. As would be expected thin-walled larger diameter barrels are especially prone to splitting.

Below. Barrel end and end cap. Barrel has an internal thread.

Barrels can sometime be lacquered (normally a gold finish) or can be be chromium plated. There are examples of barrels which have engraved decorated patterns or have hand grips.

Below. A small chromium plated syringe about 8" long.

Below. Barrel with external thread.



Right A patterned barrel.

If present, the makers name and/or logo are usually on the barrel and may either be on a plate, engraved, embossed or as a paint transfer. Logos may also be on the barrel end cap, nozzles and bends. ‘Made in England’, ‘English Make’ or similar can sometimes be found engraved on the barrel or elsewhere.

Below. Logos from various sprayers.

Deserving a special mention is the barrel of the Four Oaks ‘Undentable’ syringe. Patented in 1903 the barrel of the syringe is encased in a corrugated outer sleeve. This protects the barrel from dents and provides additional structural strength, although it does make the syringe heavier than usual. The undentable syringe was still listed in a catalogue of 1960, so it was in production largely unchanged for nearly 60 years.

Below. Air vent with short drip tube.

Below. Four Oaks undentable.

Air vents are usually in the barrel and consist of a hole about 1/8” in diameter. Sometimes the vent is in the barrel end cap. Where a drip preventer is fitted the vent will be hidden but will still be there.

The vent sometimes has a tube running from it, either down the barrel or into the drip preventer/protector. These tubes help direct any liquid which has found its way past the piston from spraying over the user next time the syringe is filled. The air vent on the Four Oaks, ‘Undentable’ is in the barrel end cap.

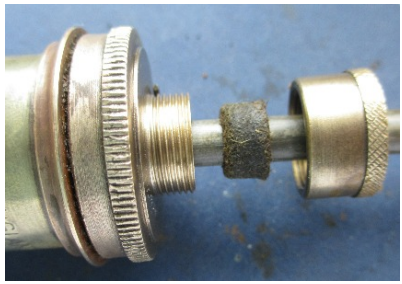
On very cheap syringes the air vent may be omitted and the air allowed to enter/exit between the plunger rod and barrel end cap. Note that air pumps often do not have air vents, but they can usually be identified by the nozzle and the fact that they have only a forward-facing cup washer.

Below. A football pump. These can look like sprayers. They will only have a single forward-facing cup washer. The nozzle will be different.

The barrel end cap has a central hole through which the plunger rod passes. On brass syringes the end cap will screw onto a collar on the barrel or onto/into a thread machined directly on the barrel. Pistons are accessed for maintenance by removing the barrel end cap. I know of only one plastic syringe (dating late 1960s early 1970s) where the barrel end cap can't be removed. Presumably this syringe was designed to be thrown away when the piston failed.
Some barrel end caps incorporate a drip protection collar - see the chapter on barrels.

A stuffing box (gland) may be incorporated into the barrel end cap. The stuffing box or gland is packed with greased string or other suitable material. The gland nut allows the packing material to be compressed to form a watertight seal between the plunger rod and the barrel end cap. The gland nut needs to be tightened enough to prevent liquid escaping while still allowing the piston rod to move freely.

Below. Stuffing box with cap unscrewed. Showing the original fibre ring.



DRIP GUARDS

A drip protector is a short saucer shaped fitting on the barrel which catches drips. A drip preventer is a sleeve which fits over part of the barrel. There is a mention in advertising and on syringes of the 'Cooper's patent drip protector'. The patent for this was granted to Frederick Cooper of Handsworth in 1881. (No. 2643 dated 17 June 1881). The patent is for a short saucer shaped protector fitted to the nozzle end of the barrel and for a collar around the other end of the barrel which redirects any liquid coming out of the air vent. The normal implementation of this is to put the protector on both ends of the barrel. In addition, there is sometimes a short tube running from the air vent into the protector. Fredrick Cooper also has an 1895 patent for a drip protector which doubled as a hand grip and was moveable up and down the barrel. (Patent GB189510368A dated 4 April 1896). If any sprayers were manufactured with this feature they will be very rare.

Below. Syringe with drip protector.

There is a patent by Alfred John Purser in 1894 (GB189402561 10 Nov 1894) for a drip preventing sleeve. This patent relates to a means of preventing liquid from running down the outside of the syringe and recognises that the guard also catches any liquid leaking past the piston and out through the air vent. In use the drip preventer is used to grip the syringe. Drip preventers also help prevent damage to the barrel.

Below. Syringe with drip preventer.

There is an unusual configuration, where the sleeve starts part way down the barrel and the air vent connects via a pipe to the drip preventer.

Holders for additional nozzles and nozzle caps are often fixed to the drip preventer. The sleeve can be bound to form a soft grip.

Below. Syringe with drip protector part way down the barrel.

Below. Syringe with drip protector bound to form a hand grip.

Below. A drip sleeve removed from a barrel. It was soldered into the barrel collar. Note the air vent which would normally be hidden by the sleeve. In this example the sleeve is slightly tapered, so it fits tightly around the barrel at the top but leaves a larger gap further down. Not all drip preventing sleeves taper in this way. Instead of drip preventer some sprayers have a tube from the air vent which run part way down the barrel.

Below. A sprayer with a tube running from the air vent down the barrel. This simply directs down the barrel any liquid which has got past the piston avoiding it spraying over the user. This arrangement does not help protect the user when spraying upwards. It was made for Sutton Seeds of Reading, and was probably intended for spraying roses.

The ‘Cooper’s’ type of drip protector continued in use after the introduction of the drip preventing sleeve as the sleeve was not suitable for use on larger diameter syringes and not necessary for some uses.

The use of both drip protectors and drip preventers declines following WW II because they are not so important on sprayers with cup washer pistons and leaving them off made for a cheaper product.

PLUNGERS AND PISTONS

The plunger and piston components consist of the piston rod, the piston and the handle. The piston rod passes through the barrel end cap. The barrel end cap may have a ‘stuffing box’ (gland) which prevents liquid from seeping between the plunger rod and the barrel end cap. See the chapter on barrels.

Plunger Rod

Plunger rods are usually made of brass, steel or brass coated steel and vary in diameter between ¼ and ½ inch. Plastic can be used for plunger rods, but this is rare even on syringes with plastic barrels. Plunger rods can be solid rods or can be tubes. Solid rods are normally used with cup washer type pistons and are threaded to take the components of the piston. Steel rods are always solid and tend to be used on cheaper more recent syringes. They do rust very easily. The larger diameter plunger rods are normally brass tubes, and these have an additional fitting - the plunger mount - which allows the piston to be secured to the rod.

Below. Shows how a brass tube plunger rod screws into the mounting for a double cup washer.

Piston Assembly

The piston components fall into two basic types. Firstly, the cotton padding type (’cotton reel pistons’). These consist of what looks like a brass ’cotton reel’ which is bound with cotton string or cotton padding of some sort. The length of the ’cotton reel’ varies from about ½ to 1 inch. It is fitted to the end of the plunger rod which is usually a brass tube. Typically, the plunger rod is threaded and screws into the ’cotton reel and is then secured with a small amount of solder. Secondly, the cup washer type. These pistons usually consist of two back-to-back cup washers. The forward-facing cup washer provides a seal on the push stroke and the back facing cup washer a seal on the pull stroke.

Below. Cross section through a cotton reel piston.

The cup washers are normally leather, but some are made of composite material. Cup washers are usually held on the plunger rod or plunger mount with a metal washer and a nut, but there are various slightly different ways of doing this. Nuts can be of the self-locking type, or sometimes there is a separate lock nut.

Right. Typical cup washer piston assembly on a steel piston rod.

Right. Cup washer piston assembly on brass tube. This version uses a special cup shaped metal washer.

The 'cotton reel' type pistons seem to pre-date the cup washer type, but leather pistons were in use in ships pumps, so they may have been used in some syringes. The 'cotton reel' pistons do allow some liquid to get past the piston on the push stroke. The stuffing box prevents this liquid from escaping from the junction between the piston rod and the barrel end cap.

In 1900 John William Davenport (103 Withington Road Manchester) patented the idea of using two back-to-back cup washers in the piston assembly. (Patent GB189909065A 3 Feb 1900). There is no indication of an association with any particular company, so how he progressed the idea is not clear. Possibly he licensed or sold the idea to one of the syringe manufacturers. The move to cup washers does not appear to start until some years after this. There is an interim period when some manufacturers added a forward-facing cup washer to the 'cotton reel' piston, thus helping to prevent loss of liquid around the piston.

Below. Cotton reel piston assembly supplemented with a forward-facing cup washer.

Double cup washers do not appear to become common until post WW II. However, syringes using 'cotton reel' pistons were still being sold post WW II.

As a general rule it is probably reasonable to say that syringes with cup washers are post WW II. Those with ‘cotton reel’ pistons may be either pre or post war but probably not later than the mid-1950s.

Back-to-back leather cup washer pistons take advantage of the pressure changes within the barrel when the syringe is used. On the pull stroke the pressure is exerted on the inside of the rear cup washer forcing it into closer contact with the barrel wall. On the push stroke pressure is exerted on the inside of the forward-facing cup washer keeping this in close contact with the barrel wall.

Manufacturers recommend that syringes are washed out after use and that the piston are kept lubricated. ABOL recommend the use of lard oil or vaseline on their ‘cotton reel’ pistons. For leather cup washers the recommendation is normally to use mineral oil.

Below. Stones Adjustable Plunger of the leather washer type.

From the users’ point of view there was no major advantage to the cup washers. New cup washers were probably more efficient than the ‘cotton reel’ type, but once they became worn or dried out, replacements had to be purchased, whereas the ’cotton reel’ pistons could simply be repaired with cotton thread or string.

One innovation which attempts to deal with the wear on the piston is ‘Stones Adjustable Plunger’. The patent is for a piston consisting of a rubber ball which could be compressed to take up wear. This was also implemented using leather washers compressed between two metal washers and tightened with a wing nut. The idea being that as the plunger wears, the screw can be turned to expand the plunger and improve the seal.

Right. Stone’s Adjustable plunger of a type similar to the one described in the patent GB189600245A dated 14 November 1896.

The cup washers used in majority of syringes are made of leather, but there are some which appear to be made of a synthetic material. Rubber washers are occasionally used mainly in plastic syringes. If only one cup washer is used, then there will special provisions made such as additional supporting brass washers. Often it can appear that a syringe has just one cup washer, but this is usually because one has decayed.

There are some other unusual piston configurations, including one which uses a leather band instead of cotton padding.

Right. This piston assembly has a forward-facing cup washer, followed by a 'cotton reel' type component around which fits a leather band (not a washer).

Right. This assembly consists of a specially shaped brass washer (top right) around which fits a specially shaped cup washer. This assembly is then compressed between two flat brass washers. This allows some adjustment to the fit of the piston.

Handles

These can be made of various types of wood. Cherry and teak are specifically mentioned. Wooden handles are normally a push fit, often held in place with a brass ferrule and a brass rivet which passes through a hole in the plunger rod. Some handles screw on and in some the plunger rod passes through the handle and secured with a nut. Wooden handles are varnished or sometimes painted - black and green being the most used colours.

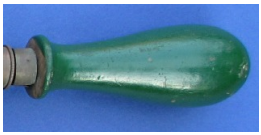
'T', 'D' and 'O' shaped metal handles were used on early syringes (1830 illustration) and often on artisan made syringes. Chadburn Bros of Sheffield had a design (1842) for a hollow handle to hold the various nozzles. Plastic handles of various colours replace the wooden handles on some later syringes (eg. Spraygen) and these are moulded on.

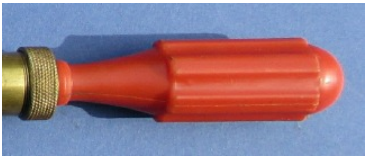
Below. 'O' or 'D' shaped handle.

Left. Typical file shaped handle. Held in place with a rivet through the ferrule and piston rod.

Below. 'T' shaped handle. Found on early syringes.

Right. Painted file shaped handle.





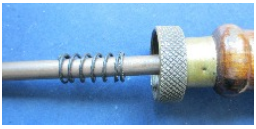
Left. Plastic handle. moulded on. Found on later Spraygen syringes.

Right. Apex sprayer plastic handle.

Other Features

Springs are sometimes added to the plunger rod. These buffer the pull stroke, preventing the cup washers from hitting the barrel end cap. Similarly, there can be a rubber washer between the barrel end cap and the handle to absorb the shock of the handle hitting the barrel end cap.

Below. Piston rod buffer washer.



Left. Piston rod spring.

NOZZLES

Below. R.Harris (Brassfounder) Ltd syringe. Model 'Sprhao Champion 909'. Shown fitted with a jet nozzle. This can be changed for a rose nozzle (left holder on drip preventer) or a spray nozzle (right holder on drip preventer). It has a fast-fill valve incorporated into the spray head.

In a simple syringe the nozzle is normally a perforated disc known as a 'rose'. This sprays fairly large water droplets similar to rain drops. The two other types of nozzle are the jet nozzle which simply sprays a jet of liquid and the spray nozzle which sprays a vapour or mist-like spray. Spray nozzles are particularly useful for spraying fungicides and insecticides.

Rose and jet nozzle were in use from earliest times. The more perforations in the rose nozzle and the smaller the holes the finer the spray. Normally a nozzle will have 30 to 100 perforations. However, the finer the rose the more difficult it becomes to fill the syringe which resulted in the development of the 'fast-fill' or 'quick fill' valve. This concept seems to have been understood at least as early as the 18th century with the valve being based on a simple disc. The use of a fast-fill valve is essential with spray nozzles and on larger syringes they are of benefit even with jet nozzles.

In 1819 John Read invented a syringe with a fast-fill valve controlled by a ball valve. The story is that he got the idea from seeing a cannonball being used in a valve in a ship's pump. The 'Taylors' bilge pump of 1780 uses a ball in its bottom valve, but I suspect this was specially made for the pump and not a cannon ball in the true sense. Sprayers using Read's design were still being produced in the 1930s.

Finer sprays than those possible with rose nozzles require a spray nozzle (also known as cyclone or eddy chamber nozzles). By forcing the liquid though very fine tubes into an atomising chamber before it leaves the syringe it is possible to create a very fine mist like spray. The idea for this seems to have come from the USA in the 1850s. It was first was taken up by Vemorel in France for larger sprayers but was not applied to

syringes until near the end of the 1800s. The tube through which the liquid is forced may be simply one or more holes, or formed by using a plug which has spiral or angled channels which form tubes when the plug is inserted into the body of the nozzle. The final opening may be in the body of the nozzle or in a screw on cap. The atomising chamber is formed between the end of the tubes (the atomising tubes) and the outlet. Varying the angle, size or length of the tubes, changing the size of the atomising chamber or changing the size of the final aperture affects the characteristics of the spray. However, whatever the design, filling the syringe through the spray nozzle would be impossible, so spray heads are always fitted with fast-fill valves. The valve opens to fill the syringe but closes when spraying. They can be separate from the spray nozzle, or the spray nozzle and the fast-fill valve can be combined. Fast fill valves were originally controlled by a disc or ball, but in 1907 there is a patent for a conical fast-fill valve. (GB190625921 16 Nov 1907 A.E.French for W.T.French and Son).

Below. W.T.French syringe. Fitted with a spray nozzle and separate fast-fill valve. Barrel 16”x1”. Embossed W T French.

The opening of the fast-fill valve must be close to the nozzle, so that both are immersed when filling the syringe. This has resulted in the characteristic horned appearance of some spray heads with fast-fill valves. Some manufacturers have allowed for the fact that the sprayer will be put in the container at an angle and have adjusted the angle of the fast-fill valve accordingly, Others have not been concerned about this.

Nozzle with integrated fast-fill valves appear in the 1920s. There are several different designs of these valves, but none are as effective as a separate fast-fill valve in allowing liquid into the syringe, so their use appears to have been limited to smaller syringes with a barrel diameter of an inch or less. The idea may have been around for some time but not proceeded with. This may be because there is a patent for the idea which I am not aware of, or because of

Below. A typical nozzle with integrated fast-fill valve.

Below. A rose nozzle.

Below. A jet nozzle.

Below. Fast fill disc valve used in a rose nozzle.

Below. Fast fill disc valve used in a jet nozzle.

Below. Fast fill ball valve. Controlled by a ¼" brass ball held in a cage.

the efficiency of the separate fast-fill valve.

Nozzles can be either fixed or interchangeable. Interchangeable nozzles normally screw on and there is usually a holder on the barrel or drip preventer for the nozzle not being used. Spray heads can have interchangeable caps with different size apertures. There are also some special fixed nozzles which incorporate a valve which allows the sprayer to be used in multiple ways.

Rose nozzle can be fixed or interchangeable. Fixed rose nozzles are common on cheaper sprayers. Jet nozzles are not usually fixed and a syringe with what appears to be a fixed jet nozzle is probably not a garden sprayer. Disc valves use a washer like disc to form the valve. In the top picture (right) the larger perforations near the centre are the inlet for the fast-fill valve. The outer perforations are the rose. Inside there is a disc held in place by a central stud. The disc is pulled up during filling allowing liquid to pass though the external large perforations. During spraying the disc is forced down so that only the smaller perforations are in use.

A similar approach is used in the jet version of this valve except that the stud has a hole through the centre which forms the jet when spraying. Some versions of these valves use a leather rather than a metal washer. Valves based on this principle would have been some of the earliest in use.

Fast fill valves can also be controlled by a ball. In the Sprhao spray head the rose and the spray nozzles screw onto a head which incorporates the fast-fill valve. This arrangement means that the fast-fill valve is used both by the spray and the rose nozzle.

Left. Sprhao spray head. The fast-fill valve is at the top. It is of the ball valve type. The brass ball is held in by a brass pin.

Below. The inside of a spray head with the spray components removed. The swirl plug screws in on the right. It has a slot in the top to facilitate removal for cleaning. The grooves in the plug form angled channels through which the liquid is forced.

Below ABOL spray head. This version with an exchangeable cap. The caps have three sizes - 10, 14 and 17 G. The 'G' means 'Gauge' based on the 'British Standard Wire Gauge System'. 10 G is the largest size aperture. Early caps show the patent number.

Spray heads incorporate the nozzle and the fast-fill valve if there is one. Spray nozzles produce a fine spray or mist. They work by forcing the liquid through fine tubes or channels (sometimes called atomising tubes) into an atomising chamber, where it is swirled around before being forced out through an opening. The tube may be simply one or more holes (up to 4) set at an angle, or formed by using a plug which has spiral or angled channels which form tubes when the plug is inserted into the body of the nozzle. The final opening may be in the body of the nozzle or in a screw on cap. The atomising chamber is formed between the top of the atomising tubes, and final outlet (ie. the body of the nozzle or the cap). However, whatever the design, filling the syringe through the spray nozzle would be difficult, so spray heads are fitted with fast (quick) fill valves. The valve opens to fill the syringe but closes when spraying. Fast fill valves can be separate from the spray nozzle or the spray nozzle and the fast-fill valve can be combined.

Integrated spray nozzles incorporate a fast-fill valve in the nozzle, eliminating the need for the separate valve. There are basically two types of these. Ones where the valve is held in place by the swirl plug. In this case only the valve moves, and liquid must pass through the swirl plug. In the other type the valve and swirl plug form one unit and this whole unit moves allowing the liquid to flow around it when filling the syringe. In a further variation on this there is no separate swirl plug, and the atomising tubes are drilled directly into the valve stud.

Right. Integral fast-fill valve where the valve is held in by the swirl plug. The conical valve (centre) has a hole through the centre. The swirl plug (bottom) screws into the housing and holds the conical valve in place so that it can move a few millimetres. When filling the conical valve is pulled away from the opening in the housing (top) allowing liquid to pass freely through the opening. When spraying the conical valve moves forward and blocks the opening in the housing, forcing the liquid through the smaller aperture in its centre The atomising chamber is formed between the bottom of the conical valve and the swirl plug.

Right. Integral fast-fill valve where the valve and swirl plug form one unit. The whole unit moves allowing the liquid to flow around it when filling the syringe

Right. Integral fast-fill valve where atomising tubes are drilled directly into the valve stud.

Right. Sometimes the valve/swirl component is held in with an additional open screw as shown Often it is unsecured and will fall out if the nozzle housing is unscrewed.

A ball is often used to control the flow in fast-fill valves. The ball is usually ¼" or ⅜" inches in diameter and made of brass. It is held in either by a pin or by an open retaining screw. When filling the syringe, the ball is pulled into the housing where it is retained by the pin or screw. When spraying the ball is forced against the casing sealing the valve and forcing all the liquid through the spray nozzle. There are no washers involved. There are a number of different ways these valves can be constructed. ABOL Ltd had three traceable patents (GB245025 31 Dec 1925, GB259095 7 Oct 1926 and GB397658 31 Aug 1931) for different fast-fill valves (suction valves). Ball valves can be used with rose, jet and spray nozzles. A similar approach can be used with jet nozzles. Alternatively, the ball can be held in place by an open screw or similar.

Below. Spray head with unusual fast-fill valve. Includes a filter. Believed to be from a Benton & Stone sprayer.

Left. A ball valve used in a jet nozzle. The ball is held in with pins moulded into the fitting which form a cage.

Left. A ball valve used in a rose nozzle. The ball is held in with a screw fitting which allows liquid to flow through it.

Left. Spray head with a separate fast-fill valve. In this design the ball is crimped into the valve.

Left. In this example the quick fill valve fits between the sprayer and the nozzle. The ball fits into the chamber and is held in with a screw (right). When filling, the ball is pulled out from the hole underneath, allowing liquid to flow in. When spraying the ball blocks this hole. The arrangements means that the sprayer cannot pick up the liquid at the very bottom of the container, which is not the case with the horned arrangements.

Instead of the ball some fast-fill valves use a cone shaped component. In some cases, there is a tiny rubber washer on the cone which helps form the seal with the body when spraying. There can also be a small spring which fits behind the cone which keeps the valve closed when no pressure is being applied. Cone shaped valves can also be used on rose and jet nozzles.

Below. The cone shaped component is shown right, with the small rubber washer above.

Right. The cone shaped component is shown right, with the small spring centre).

Right. A rose nozzle with a cone type fast-fill valve in the centre of the rose. The cone shaped component is shown centre, with retaining nut right.

The standard way of changing between jet, rose and spray nozzles is to have interchangeable nozzles which the user screws onto the syringe as required. However, this is an area where the inventors have been very active and there are several inventions which aim to make changing between nozzle types easier.

Right. ***Purser (Patent GB191025717A 6 Nov 1911).***
This spray head has two nozzles as well as a fast-fill valve. One of the spray nozzles points forward and the other at an angle. When the angled nozzle is pointing upwards this is in use. Otherwise, the nozzles pointing forward is in use. The action is controlled by a ball valve. The ball is held in place by a small cage and a screw. It moves to block one of the nozzles.

Right. ***ROSENJET (Joseph Lilly - Patent GB217297A 10 June 1924)***
The RoseNJet spray head works either as a jet or rose depending on which up the sprayer is held. The picture (left) shows (the mechanism with the rose head removed. The mechanism uses a 1/4" ball which block the outlet not required. When filling the mechanism acts as a fast-fill valve. The nozzle assembly is soldered onto the barrel end and is only partially accessible. The ball valve is on the inside. The ball moves as the sprayer is turned to block one of the outlets. During filling the ball moves away from both outlets.

Right. ***CROSSLAND & WOOD LTD (Patent GB600898A 21 Apr 1948)***
This head has three nozzles - a rose, a spray and a jet. The user chooses which one to use by rotating the syringe, so that the required nozzle is on top. The inside of the head has three outlet holes to the three nozzles and two brass balls (¼ inch). These balls move as the syringe is turned, so that they block the bottom two unwanted outlets. When filling, suction pulls both balls away from the outlets, so that liquid can enter through all three apertures.

Right. ***ROBINSON BROS***
This head allows automatic selection of either a rose or a spray. It is controlled by a ball (in a similar manner to the RoseNJet). The head also has a filter and can swivel.

The normal method provided for adjusting the spray is to provide interchangeable caps for the spray heads. These have different size apertures to give different sprays (often fine, medium and coarse). With some ABOL spray heads it was possible to buy spray plugs with different characteristics.

Screw adjustable nozzles work by allowing the user to change the size of the atomising chamber. There is a W.T.French patent for 1909 which does this by changing the distance between the spray orifices and the aperture in the cap. For this to work you need to be able to maintain a watertight joint. The spray nozzle from a late Mysto sprayer is capable of being adjusted from a fine to coarse spray. A rubber 'O' ring is used to provide the seal. However, the 'O' ring was not patented until the late 1930s, and did not come into general use until the 1950s, too late for most syringe sprayers. The G W Purser adjustable nozzle has a cap which can be turned, moving the cap in relation to the spray orifices. A fibre washer in the retaining collar prevents leakage. A simpler method uses a sliding plate with a choice of apertures.

Below. Spray caps used to change the spray. In this case fine, medium and coarse.

Below. The idea behind the ABOL patent spray head was that the spray could be adjusted by changing the swirl plug for one with different characteristics or by screwing the plug in or out a little. On later spray heads the spray can also be adjusted by changing the cap,

Left. G & W. Purser Ltd adjustable nozzle. The spray is adjusted by the user screwing/unscrewing the nozzle cap. A fibre washer is used to allow the movement required while preventing leakage.

Left. Mysto adjustable spray nozzle. Adjusted by the user screwing/unscrewing the nozzle cap. A rubber 'O' ring is used to allow the movement required while preventing leakage.

Right The spray is adjusted by sliding into position a brass plate which contains apertures of two different sizes.

SUNDRY PARTS

Below. A removable bend with manufacturer's name.

Below. A fixed bend.

Below. The angle of this nozzle is adjustable. This type of nozzle is more often seen on continuous sprayers.

Below. In this arrangement there are two branches to the barrel. There are two caps, one of which is a nozzle and the other a blank cap. By swapping the caps the sprayer can be changed from spraying forward to spraying at angle.

Bends

Bends can be fixed and form part of the spray head or barrel. Or they can be removable and screw onto the front of the sprayer between the barrel and the nozzle. They allow the spray to get under leaves etc. Removable bends were often an optional extra. The name of the manufacturer is sometimes on the bend (e.g. Mysto, DronWal), There are also some special arrangements whereby the bend is formed by a branch in the barrel or spray head and a blank cap or fast-fill valve is used to control which branch is in use.

Philip Harry Baily (Smith & Davis Ltd) has a patent (GB270543 dated 12 May 1927) for a swivel nozzle. G & W Purser have a nozzle where the direction of the spray can be changed by turning the syringe.

Filters

ABOL Ltd have a patent showing a filter incorporated into the spray heads, however, I have not seen this implemented. From the patent it would be a small mesh filter fitted in the fast-fill valve and easily lost. G & W.Purser have a separate filter ('Grit Proof') which fitted between the barrel and the spray head. Robinson Bros. Ltd also feature a nozzle with a built-in filter.

Nuts and Washers

Nuts and metal washers are normally imperial sizes. Occasionally there are special washer sizes and shapes, including metal cup washers. Better quality sprayers, especially the pre-WW II ones, use brass washers and nuts but many just use standard steel components. A few use special locking nuts. Removable part such as bends and caps use leather or fibre washers between the parts.

Left. In this arrangement there are two branches to the barrel. There are two nozzles and a fast-fill valve. By swapping the nozzles and fast-fill valves the sprayer can be changed from spraying forward to spraying at angle. There are four combinations available to the user.

Left. This Four Oaks sprayer has a swivel spray head. The fast-fill valve is controlled by a ball and is incorporated into the spray head.

Left. Purser grit proof filter.

Boxes

Probably sprayers were originally sold without any packaging or in plain boxes. A.E.White (ABOL) of Beltring, Kent seems to have been among the first to supply his sprayers in custom designed boxes.

Below. An early box for an ABOL No. 4 sprayer.

Below. Box for a Mysto No, 12 sprayer (1950s).

Baffles

Smith and Davis Ltd of Wednesbury, Staffs. supplied a nozzle fitted with a baffle. This directs the spray forward. The nozzle has an adjustable bend.

Above Smith and Davis Ltd (Beacon sprayers) nozzle with a baffle.

Guide to

Vintage Sprayers

Michael Weideli

Volume 3

Self-Supplying

Sprayers

Version 5.4 - February 2026

Most of the information in this document is drawn from my own collection of sprayers and related documentation. A small number of images originate from Grace's Guide to British Industrial History. Wherever these appear, I have clearly indicated their source. If you wish to use those images, please obtain them directly from Grace's Guide and follow their usage policies.
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INTRODUCTION

This volume is about handheld self-supplying sprayers with a focus on those manufactured in the United Kingdom.

All the sprayers covered in this volume have an inlet connected to a hose. The other end of the hose is placed in a container holding the liquid to be sprayed. Within this barrel is a plunger. This is normally a piston mounted on a piston rod. The barrel is held in one hand and the user moves the piston rod back and forth within the barrel. This action draws liquid from the container and sprays it from the nozzle. Spraying can continue until the container is empty.

These sprayers are designed to be handheld and because of this need to be lightweight, and to work at any angle. For certain tasks they may need to be continuous action or double action, spraying on both strokes. These considerations have resulted in many different designs which can look similar but which work in different ways.

Volume 1 in this series is an introduction to all garden sprayers and covers the history and operation of the pumps used in all garden sprayers. This volume (Volume 3) considers the handheld self-sprayers in more detail.

The handheld self-supplying sprayers use several different pump configurations and there are chapters on each of these. For some types, one manufacturer dominates the market. This is usually because they have a patent on some aspect of the sprayer which they were able to exploit. Where this is the case, I have one chapter on the sprayers made by the principal manufacturer followed by a chapter on similar sprayers made by others. The terminology used is largely based on the patents of the early 20th century. To be consistent I have used the term

barrel for the pump cylinder. The term plunger rod is used where there is no piston (i.e. on plunger pumps). Otherwise, the term piston rod is used. The rear of the barrel is always the end where the piston or plunger rod passes into the barrel. The front of the barrel is the opposite end to this.

Above the piston means the side nearest the rear of the barrel. Valves are always one way and operate through changes in the pressure as the users moves the piston within the barrel. Valves are normally of the ball valve type. None of the sprayers covered here use spring assisted valves but other types of sprayers do.

Most of the sprayers covered are largely made of brass but there is one plastic sprayer. With a few exceptions pistons use leather cup-washers.

Hoses can be of rubber or plastic. Plastic hoses suggest a post WW II date, but hoses are often missing or have been replaced, so care needs to be taken when interpreting this.

There are a few sprayers where the pump is encased in a container. In the sprayers considered here the purpose is to redirect the flow of liquid within the sprayer or to act as an air-chamber.

Although most sprayers covered in this volume were actually manufactured in the United Kingdom, I have covered the Cooper, Pegler & Co. ‘Hydra’ which may have been made by the French Company Établissements V. Vermorel and two of USA designed sprayers because they are important in understanding the development of self-supplying sprayers.

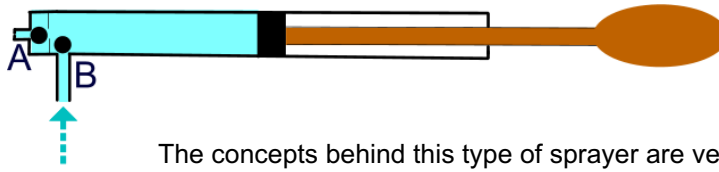
Manufacturer’s names are those in use at their time of peak production. Some firms started under the name of the proprietor and then were incorporated at a later date. Company names could be changed when new partners joined the company. In the later years there were many takeovers and mergers some of which were complicated.

-

FORCE PUMP SINGLE ACTION

*Below. On the pull stroke output valve (**A**) is closed and input valve (**B**) open allowing the liquid to be sucked into the barrel. On the push stroke input valve (**B**) closes and output valve (**A**) opens spraying liquid from the nozzle.*

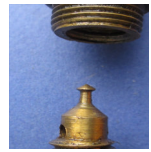
This type of self-supplying sprayer has a front hose connection, and inlet and outlet valves fitted in front of the piston. They do not have a valve on the piston. Typically, the piston will use two back-to-back cup washers similar to those used on syringes. There is normally an air vent. This is the simplest form of self-supplying sprayer, but the front hose connection can make the sprayer difficult to handle so the design was not popular with manufacturers.



The concepts behind this type of sprayer are very simple and there were probably early versions, however, the only one I am aware of was produced by W.T. French and Sons Ltd (Mysto) in the 1930s.

Below. W.T. French & Son Ltd. Mysto sprayer. It would have had a hose and probably a strainer. The hose was push fit. The piston uses standard back-to-back cup washers as used in syringes. There is an air vent and drip protector, but it does not have a stuffing box. The nozzle is adjustable to give a range of sprays. Adjustment is made by turning the top fitting in the picture which changes the size of the atomising chamber.

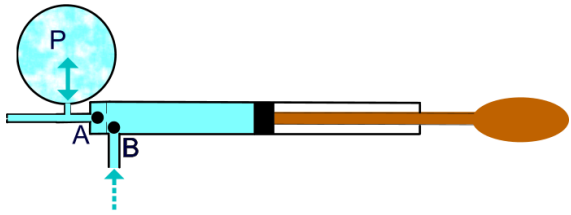
Right. Adjustable nozzle. Turning the cap changes the size of the atomising chamber. This is the same approach as used on the majority of modern adjustable nozzles. However, a fibre washer is provided to seal the component rather than the rubber 'O' ring which would be used today. A rose nozzle was also provided and a holder on the barrel for the nozzle not in use.



Right. Back-to-back cup washers.

FORCE PUMP CONTINUOUS ACTION

The addition of an air-chamber makes the sprayers continuous action. Air compressed on the push stroke powers a discharge while the pull stroke is filling the barrel. In the simplest form the air-chamber needs to be near the front of the sprayer and positioned above the barrel so that air is not lost during use.



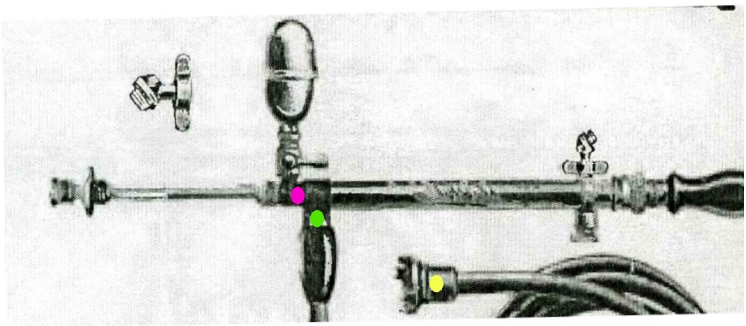
*Right. On the pull stroke output valve (**A**) is closed and input valve (**B**) opens allowing the liquid to be sucked into the barrel. Air compressed on the previous push stroke forces liquid in the air-chamber (**P**) out through the nozzle. On the push stroke input valve (**B**) closes and output valve (**A**) opens allowing liquid to be sprayed from the nozzle and at the same time some liquid is forced into the air-chamber (**P**). With consistent pumping there can always be some compressed air in the air-chamber evening out the flow.*

The Four Oaks Spraying Co. has a sprayer of this type. The air-chamber on this is a barrel shape, inside of which there is a short, curved pipe running from the nozzle connection and ending about the middle of the chamber. Liquid is forced through this and out of the nozzle by the pressure in the chamber. The piston consists of two back-to-back cup washers as used in many syringes. It has a fixed spray nozzle. One valve is fitted just above the hose connection and the other just below the pressure chamber. They are both ½ ball valves. Adding the pressure chamber above the barrel together with the front hose connection makes the sprayers unbalanced and difficult to handle.

Below. Four Oaks Spraying Co. Continuous action sprayer.

Ernest H. Hill Ltd (Nesthill) produced a futuristic looking sprayer called the ‘Handispray’ with an air-chamber on the top. The quality of construction suggests that this sprayer is post WW II. A tap is provided to isolate the air chamber and turn the sprayer into single action. The ‘Handispray’ is fitted with a syringe type piston of the cotton reel type augmented by at least one leather cup washer. The main inlet valve of the sprayer is in the lower grip and consist of an ½” ball valve with an open screw holding in the ball.

Below. Ernest H. Hill Ltd (Nesthill) ‘Handispray’.



Below. The ‘Handispray’ inlet valve.

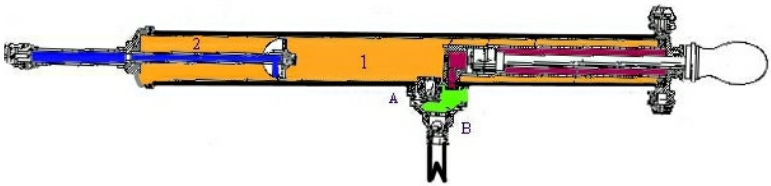
Below. The ‘Handispray’ piston.

W.T. French and Son Ltd patent (GB267417A 17 Mar 1927) aims to overcome the problems of the front hose and prominent air-chamber by fitting the pump barrel and the pressure chamber into a cylinder, with the hose connection about midway along the cylinder. In order to prevent air loss when the sprayer is tilted the sprayer has a special baffle in the air-chamber to trap the air. The Mysto Gem 39 implements this patent. Although the sprayer looks quite different from those described above it works in a similar way with the cylinder surrounding the pump forming the air-chamber and a reservoir for the liquid. When the pump is horizontal or upwards the air remains trapped at the forward end of the air chamber. If the sprayer is pointed downwards the rush of water is checked by the baffle and air is able to escape to the opposite end of the of the cylinder around the pump.

The other advantage of this design is that both valves are easily reached for cleaning.

Below. Mysto Gem 39.

Below. Diagram of Mysto Gem 39. Main components are pressure barrel (1 yellow), pump barrel (red), outlet pipe (2 blue) and valve assembly (green - valves A and B). The supply pipe is attached to the valve assembly. The inner end of the outlet pipe has a fixed curved baffle plate which almost fills the main barrel. On the other end of this pipe is the nozzle. The pump barrel houses the piston rod and piston.



1. At the start with the supply pipe in the liquid, there is air in the pump barrel, pressure barrel and supply pipe.
2. Pulling the piston rod causes air to be sucked in via the supply pipe. Valve B is open and valve A is closed.
3. On the push stroke valve A is open and valve B is closed causing the air to be forced into the pressure barrel where it escapes slowly via the outlet pipe and nozzle.
4. Repeated pumping first pressurises the air in the pressure barrel, then sucks in liquid which is in turn forced into the pressure barrel.
5. On the push stroke liquid is forced into the pressure barrel, maintaining the pressure and also expelling liquid through the nozzle.
6. On the pull stroke the compressed air in the pressure barrel continues to force liquid through the nozzle. At the same time liquid is being sucked into the pump barrel ready to be forced into the pressure chamber on the push stroke. Note that with continuous pumping at a steady rate the air in the pressure barrel remains under some pressure giving an even flow.

Right. View inside the main barrel, showing the inner pump barrel, into which the piston rod and piston fit. Far right - the piston. Below - the nozzle pipe removed from the main barrel. Note the baffle.

FORCE PUMP - WHITMAN TYPE

Right. Whitman type sprayer. Possibly by Benton & Stone Ltd.

The design was patented in the USA in 1870 by William Servant and Josiah Whitman and the sprayer sold as the 'Whitman Fountain Pump'. (USA Patent 106633 of 1870 adapted in patent 199131 of 1876). The sprayer in the picture left has no manufacturer's mark but is very similar to a sprayer made by John Wright & Co. of Birmingham and illustrated in an 1876 advertisement.

The Whitman sprayers are an implementation of a force pump but with a hollow piston rod providing the outlet. The sprayer consists of two tubes one moving inside the other. The inner tube is a hollow piston rod and has a piston on one end and a nozzle on the other.

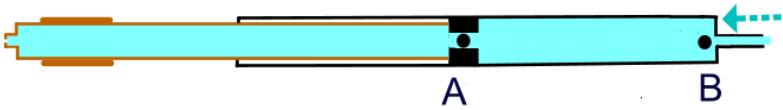
In operation the sprayer is used by holding the wooden grip on the piston rod with one hand and the barrel with the other hand. The piston is moved in and out of the barrel in a reciprocating motion. This gives a powerful, intermittent spray. The piston is on the end of the hollow rod. is of the cotton reel type. The two valves are both of the brass ball valve type. Interestingly, in the 1876 patent, the ball is specified as being a hollow sphere, and in the sprayer illustrated the ball is in fact hollow. The internal diameter of the barrel is about 1.5" and the external diameter of the piston rod about 1". In the patent the strainer is specified as being heavy enough to keep it in the bucket but does not have a valve.

John Read of London produced a self-supplying sprayer and it may have been of the Whitman type, however, there is no other information available on this.

Very similar to the Whitman sprayer, but working on a slightly different principle is a sprayer made by D. B. Smith & Co. Utica, New York.

This sprayer does not have a piston, but relies on the displacement caused by the plunger rod. Double action sprayers act as piston pumps on one of their strokes.

*Below. Diagram of the Whitman type sprayer. The suction hose is connected to the barrel by the input valve (**B**). There is very little gap between the outside of the piston rod and the inside of the barrel. On the pull stroke the inlet valve (**B**) opens and the piston valve (**A**) closes. Liquid is sucked in from the supply filling the barrel. On the push stroke the inlet valve (**B**) closes and the piston valve (**A**) opens. The piston forces liquid in the barrel through the hollow piston rod and out through the nozzle. There is an air vent.*



Right. Piston valve on a Whitman type sprayer. The ball is a hollow brass sphere. The piston is of brass bound with cotton.

Below,. Inlet valve on a Whitman type sprayer.

Right. Illustration of a sprayer from a 1910 Benton & Stone Ltd catalogue.
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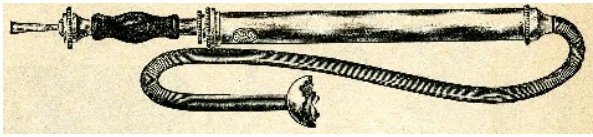
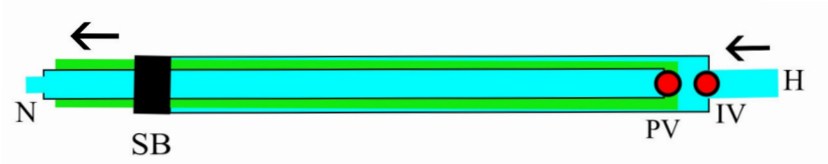


*Below. Diagram of sprayer using a plunger pump with output through a hollow piston rod. The suction hose is connected to the barrel at point (**H**). There is very little gap between the outside of the plunger rod and the inside of the barrel. There is no piston. There is a stuffing box (**SB**) where the plunger rod passes into the barrel. On the pull stroke the inlet valve (**IV**) opens and the plunger valve (**PV**) closes. Liquid is sucked in from the supply filling the barrel. On the push stroke the inlet valve (**IV**) closes and the plunger valve (**PV**) opens. The space taken up by the plunger rod as it moves into the barrel forces liquid in the barrel through the hollow plunger rod and out through the nozzle (**N**). A small amount of liquid is forced into the space between the piston rod and the inside of the barrel. The operation of this sprayer depends on having an efficient stuffing box.*



Below. D. B. Smith & Co. This sprayer was probably intended for fighting fires. However, various nozzles were available, so it could have been used as a sprayer.

ECLIPSE SPRAYERS - SINGLE ACTION

Right. The Eclipse Spraying Co. Limited was incorporated in 1928. The logo below is early but later than 1928.

Introduction

Single action sprayers based on the common pump are among the most frequently encountered, with several manufacturers making sprayers of this type. The input into the barrel is at the rear and there is a valve in the piston and another valve, either where the hose connects to the barrel or incorporated into the filter. Some have an additional valve at the front of the barrel. There is always liquid behind the piston, so they must have an efficient stuffing box where the piston passes through the barrel end cap.

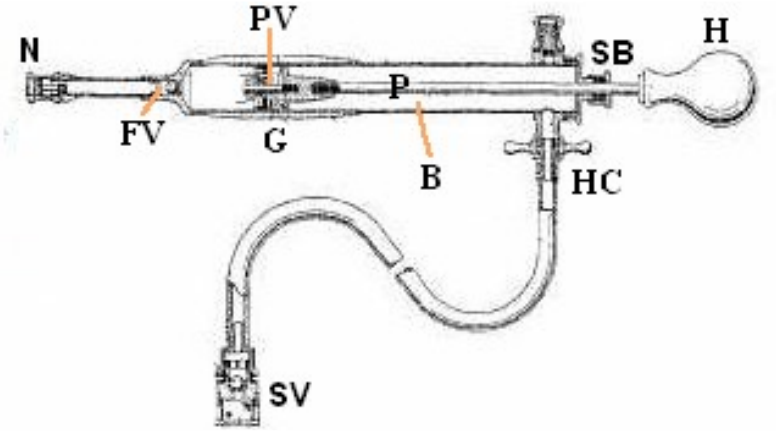
The most well-known manufacturer of this type of sprayer was the Eclipse Spraying Co. Ltd and it is their sprayers of this type which are considered in detail in this chapter. Similar sprayers made by other manufacturers are considered in the next chapter.

The Eclipse patent on which all their sprayers of this type are based was granted to William Grimley in 1924, (GB221032A dated 4 Sep 1924). In1924 Harry Mould and William Grimley founded the Eclipse Spraying Company. The first sprayers based on the patent were probably produced around this time and they continued in production until the 1960s. During this time there were some changes. The main one being to the valve on the piston, but there were also some cosmetic changes.

Right. The 1924 version of the sprayer was marketed at 'The Little Wonder'. Later it becomes the Eclipse No. 1.

Operation

*Below. Diagram based on the 1924 patent. It consists of the main barrel (**B**) (approx. 12" long and 1" in diameter) into which fits the piston rod (**P**). The brass piston rod has a piston and a valve (**PV**) on one end and a handle (**H**) on the other. The piston rod passes through stuffing box (**SB**). A hose is connected to hose connection (**HC**). At the other end of the hose is a strainer with a valve (**SV**). In operation the strainer is placed in a bucket or other suitable container filled with the liquid to be sprayed. The sprayer is held with one hand by grip (**G**) and handle (**H**) is held with the other hand to move the piston rod in a reciprocating motion. On the push the piston valve (**PV**) is closed. The front valve (**FV**) and strainer valves (**SV**) are open. Liquid passes through front valve (**FV**) and is sprayed from nozzles (**N**). At the same time liquid is sucked into the barrel from the container. On the pull stroke liquid flows through the piston valve (**PV**) so that it is in front of the piston ready for the push stroke.*

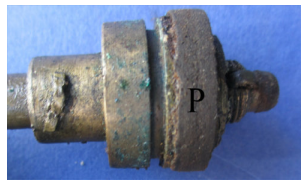


Below. This is an early version of the patented Eclipse sprayer. At this time, it is known as 'The Little Wonder'. It is almost identical to the patent and the piston valve is as specified in the patent. The hose shown is not the original.

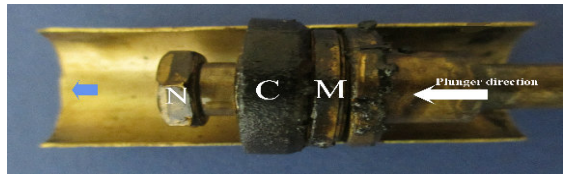
Piston Assembly

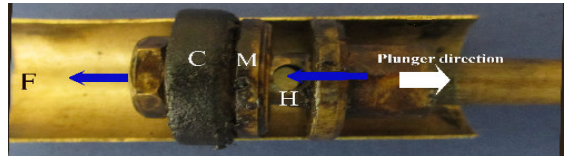
The piston assembly consists of a piston with a valve which allows liquid to flow from one side of the piston to the other on the pull stroke. The piston is a single forward facing leather cup washer. There are two forms of the valve, both of the sliding valve type.

*Right. The early Eclipse piston valve. Piston (**P**) is attached to a plate which has a number of holes in it. This whole assembly moves about ⅛" along the piston rod. When the piston is pulled back the piston assembly moves towards the nozzle allowing liquid to flow through the holes and behind the piston. On the push stroke the piston moves back against the stop so that liquid can no longer flow through the holes.*



*Right. The later Eclipse piston valve. This is the type found on most surviving sprayers. Cup washer **(C)** and cup washer mount (**M**) together with a nut and metal washer forms a component which is capable of moving about ⅜" along the piston rod from securing nut (**N**). When the piston is pushed forward the pressure causes this to move away from the securing nut and block a hole in the piston rod **(H)**.*

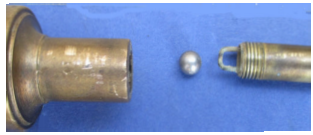




Front Valve

In the patent a brass ball fits into the chamber at the front of the barrel and is held in by the nozzle tube which has a 'U' shaped bracket preventing the ball from moving into it. This nozzle tube will unscrew but is not designed to do so in normal use. This arrangement may not be the one used on the first production sprayer. Some sprayers use an open screw to hold in the ball. This change seems to be associated with different nozzle designs.

Right. The two designs for the front valve.



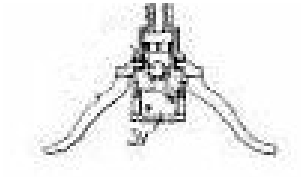
Hoses and Hose Strainers

Early hoses were made of rubber. Strainers prevent larger particles from entering the sprayer. Strainers vary in shape and may or may not contain a valve. A valve isn't strictly necessary if there is a front valve. Early Eclipse sprayers had a cylindrical shaped strainer incorporating a ball valve. The original patent shows a strainer with three legs, but I have not seen this implemented. Later Eclipse sprayers have plastic hoses and the strainer is hemispherical.

Left. Early Eclipse strainer.

Far left. Later Eclipse hemispherical strainer.

Right. The strainer with three legs from the 1924 patent.



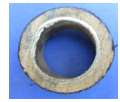
Grips

The original patent shows a grip on the barrel, but not all Eclipse sprayers of this type have a grip. Grips were formed of a compressed fibre covered in a thin celluloid layer. Celluloid is considered the first thermoplastic. The design of the grip on Eclipse sprayers changes over time. Mainly with pattern changes, but there was a grip with a different shape. In the early Eclipse sprayers one or more brass plates attached to the barrel identifying the maker and other information. Later this information appears on the grip.

Below. The number 16084 is the patent application number. and 22103 the patent number. Some sprayers may just mention the application number.

Right. Eclipse grip.

Far right. Section through a grip.



Nozzles and Lances

The standard nozzle on the Eclipse sprayer was a spray nozzle. Other nozzle types and accessories were available including lances, bends, spray nozzles (coarse and fine) and a self-cleaning nozzle for limewash. The Eclipse patent shows the nozzle fitting directly onto the short nozzle extension. In a variation of this the nozzle extension has a larger screw thread design to take a further extension on which the nozzle fits. In this arrangement the nozzle extension is not designed to be removed by the user. In another arrangement the nozzle extension is designed to be removable. This allows easier access to the valve for cleaning. A nozzle extension lance or bend can then be screwed onto the extension.

Above. The nozzle extension is not designed to be easily removed.

Right. The nozzle extension can be easily removed.

Right standard nozzle on the Eclipse sprayer was a spray nozzle the components of which are pictured below. The spray plug (centre) screws into the nozzle housing (right) and this assembly screws onto the sprayer.

Right. Self-cleaning nozzle for limewash. When a self-cleaning nozzle becomes blocked the pressure build up forces the nozzle housing back against the spring so that a needle mounted on the spray plug clears the obstruction.

Handles

Eclipse single action self-supplying sprayers have a wooden rounded handle.

Below. Now called the Eclipse No. 1. with the details on a steel plate. The nozzle extension is removable, but the nozzle will not fit directly onto the sprayer. Lance shown fitted with a non-clog nozzle. Barrel length 12".

Below. Now called the Eclipse No. 1. with the details on a steel plate. The nozzle extension is not removable. The piston valve is of the later type where the end of the rod is hollow

Below. Eclipse No. 1. with the details on a steel plate. The nozzle extension is removable and the piston valve is of the later type where the end of the rod is hollow. The nozzle will fit directly onto the sprayer.

Below. Eclipse spraying kit with Eclipse No. 1 sprayer. Details are embossed on the grip.

Below. Eclipse No. 2. A larger version of the Eclipse No. 1. Barrel length 15".

COMMON PUMP - SINGLE ACTION - OTHER MAKES

Introduction

Several made single action sprayers based on the common pump. This chapter looks at the differences between these sprayers and the Eclipse versions.

Below. W.T. French and Son Ltd. They produced sprayers of this type under the name 'Mysto Nippy'. Other manufacturers include Allen and Freeman, Crossland & Wood Ltd, Donald Edwards (Birmingham) Ltd, R.Harris (Brassfounder) Ltd, and Philip B Waldron Ltd (Dronwal).

Operation

As far as I am aware all the Eclipse sprayers have valves at the front of the sprayer, on the piston and also in the hose filter. Sprayers of this type will work without the valve in the hose strainer or without the front valve. Hoses and the hose strainer are frequently missing, but if there is not a front valve then there must have been a valve in the strainer. The valves are not perfect, so having both the front valve and the strainer valve is advantageous.

Piston Valve

The Eclipse patent probably prevented other manufacturers from using the sliding valve on the piston, so this is the main features where there is a difference. A few manufacturers did use a sliding valve but most used a ball valve. Some cheap and probably imported 1950s sprayers use a basic sliding valve.

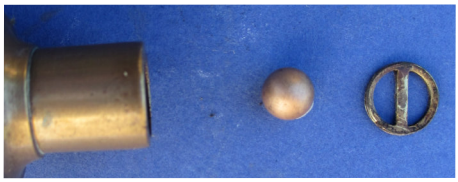
Right. When open the valve allows liquid to flow through the open screw and out through a hole at the end of the piston rod.

Left. This sliding valve is similar to the one in the Eclipse sprayers. The cup washer has an internal metal washer on the inside, which is a loose fit around the piston rod. This washer is only held in by the cup and not fixed. Behind the cup washer is a fixed toothed stop nut. In front of it is a metal nut with a toothed edge and a square end. This screws on to the end of the piston rod. When the piston is pulled back the cup washer moves forward opening the valve by allowing the liquid to flow between the teeth on the end of the piston rod. When the piston rod is pushed in, the cup washer moves back and forms a seal with the toothed stop nut closing the valve.

Left. A similar design to the one described above is used in the Bambi Ideal sprayer by Pest Control Ltd, Cambridge.

Front Valves

The Eclipse sprayers usually have a front valve. In examples where this does not appear to be the case it may be that the ball has been lost. Sprayers of this type made by other manufacturers may not have a front valve. Where there is a front valve it is always of the ball valve type. Most of the time it is built into the end of the sprayer but in some it is a separate unit.



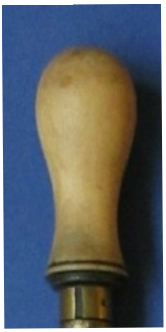
Left. W.T.French & Son Ltd. 'MYSTO NIPPY' front valve components.

Below. Donald Edward (Birmingham) Ltd. Front valve.

Right. Philip P Waldron & Co Ltd. Front valve in a separate housing.

Hoses and Hose Strainer

Hose strainers may have a valve, but this is not essential as long as there is a front valve. Strainer valves are ball valves. The strainers can be various shapes. Hoses are made of rubber or in later times plastic. Usually there is a screw on hose connection at the sprayer end and the hose is push fit onto this.



Handles and Grips

Most manufactures provided handles of the more traditional type as used on syringes. Allen & Freeman and Philip B. Waldron used a rounded handle. Allen and Freeman and JP (possibly J. Phlllips of London) provided a grip.

Lances and Nozzles

Lances were provided either as part of a kit or as optional accessories. Similarly, a range of nozzles was available from most manufacturers as part of a kit or separately. Basic nozzles were a rose, a jet and a spray. Nozzles could be fitted on double heads with adjustable angles. As with the Eclipse sprayers special anti-clog nozzles were available from some manufacturers.

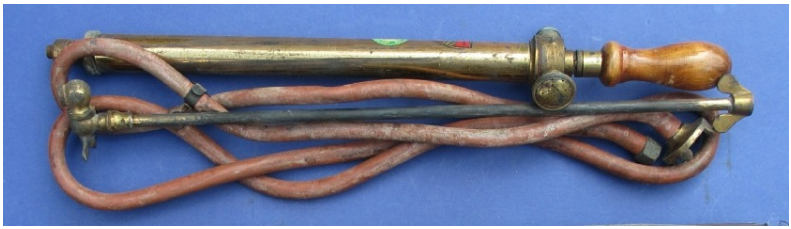
Makers Marks

Early W.T. French ‘Mysto’ sprayers had the details engraved on the barrel. Later sprayers have an image transfer on the barrel. Donald Edwards (Birmingham) Ltd, R.Harris (Brassfounder) Ltd use an image transfer. Allen & Freeman and Philip B. Waldron have their details on metal plates on the barrel.

Examples

Below. R. Harris (Brassfounder). Spraygen. The piston valve is of the ball type with a split pin. It has a front ball valve, but there is no valve in the strainer. The hose is plastic. It is supplied with spray and rose nozzles.

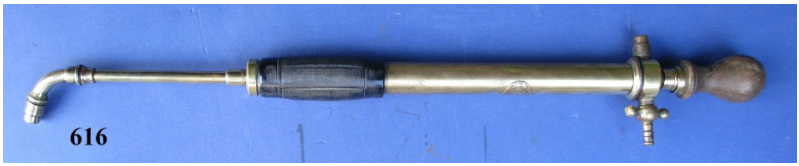
Below. Donald Edwards Birmingham. 'Green Label' brand. The piston valve is of the ball type with a split pin. It has a front ball valve and a ball valve in the strainer. Rubber hose. The logo is a transfer. Lance with swivel head.



Below. W.T French & Son Ltd. The Mysto 'Nippy'. The piston valve is a ball which is held in with an open screw. It has a front ball valve but no valve in the strainer. Rubber hose. Spray nozzle and swivel nozzle.

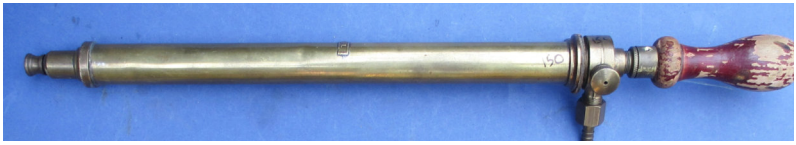
Below. Philip B Waldron & Co. Ltd. The piston valve is a ball which is held in with an open screw. It does not have a front ball valve, but there is a valve in the strainer.

Below. Allen & Freeman. Lombard Sprayer. This is the single action version. Note the rounded handle and the grip on the barre. Apart from the fact that it uses a ball valve in the piston it is very similar to the Eclipse sprayer.



Below. W.T French & Son Ltd. The Mysto 'Suoer Nippy'. The piston valve is a ball which is held in with an open screw. It has a front ball valve but no valve in the strainer. Rubber hose. Rose nozzle, swivel spray nozzle and a jet nozzle. Chromium plated.

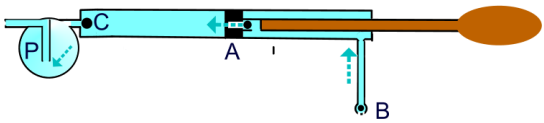
Below. Crossland & Wood Ltd. Citadel brand. The handle is a replacement. No front valve.



Below. This sprayer has a brass plate with the initial JP thought to be J.T.Parsons of Birmingham. It is very similar to an Eclipse sprayer apart from the fact that the piston valve is of the ball type. The handle looks like a replacement.

COMMON PUMP- CONTINUOUS ACTION

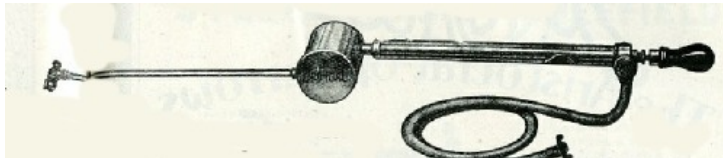
Sprayers of this type appear to be rare. The only one I know of was manufactured by Philip B. Waldron Ltd. (Dronwal) of Birmingham. This sprayer (Catalogue No. 1043) is an adaptation of their single action 1042 sprayer. The air-pressure chamber has been added to the front of the single action sprayer and an additional valve provided at the front of the barrel. There would have been a hose and possibly an extension lance provided with the sprayer. Probably the strainer at the end of the hose would have contained a valve as with the single action version. With continuous pumping the air-chamber will remain pressurised and the sprayer will behave as a continuously-filling pneumatic sprayer.



*Below/Left. Diagram illustrating the operation continuous action sprayers based on the common pump. On the push stroke outlet valve (**C**) is open. Piston valve (A) is closed. Liquid is forced into the air-chamber (P). This compresses the air within the chamber and forces liquid in the chamber out through the pipe and nozzle. At the same time the inlet valve (B) is open a liquid is sucked into the barrel behind the piston. On the pull stroke only the piston valve (A) is open and liquid move through this so that it is in front of the piston ready for the push stroke.*

Below. Philip B. Waldron Ltd. (Dronwal) of Birmingham. Continuous sprayer 1043. Shown fitted with swivel spray head.

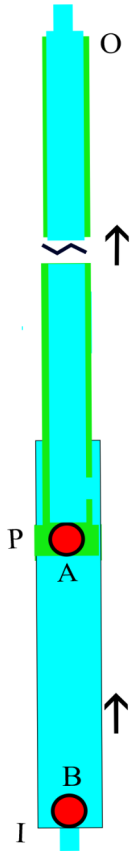
Below. Philip B. Waldron Ltd. (Dronwal) of Birmingham. Illustration from a 1946 catalogue. A slightly different design with the outlet at the bottom of the air-chamber.



SOLO DOUBLE ACTION

Double action sprayers spray on both the pull and push stroke. These sprayers do not need an air compression chamber to work but can be fitted with one to help even out the flow. At the time of writing two models were still available from Solo Sprayers Ltd. of Southend on Sea.

This chapter first considers in detail Solo sprayers based on the original 1927 William Deniston patent (GB280003A applied for 4th Oct 1926 and granted 10th Nov 1927). The next chapter looks at double action sprayers of the Solo type made by other manufacturers.



Operation

This type of sprayer consists of two tubes of different diameters so that one can fit inside the other with a space between them. The inner one has the piston on the end and is in effect a hollow piston rod. A hose runs from the rear end of the outer tube (the barrel) and ends in a strainer which is placed in a bucket or other container. A nozzle is fitted onto the end of the piston rod or on to an extension (lance) or bend attached to the piston rod. Two grips are provided. One on the outer tube (the barrel) and one on the inner tube the piston. The sprayers are operated using two hands one on each grip, ideally keeping the back grip more or less stationary. The sprayer will spray on both the pull and push stroke, making it double action.

*Left. On the pull stroke when the piston rod is being pulled out of the barrel the piston valve (**A**) is closed and the input valve (**B**) open. Liquid is sucked into the barrel. At the same time liquid between the piston rod and the barrel is forced into the piston rod expelling the liquid in the rod. On the push stroke when the piston rod is being pushed back into the barrel the piston valve (**A**) is open and the input valve (**B**) closes. Liquid flows through the piston (valve) filling the space between the piston rod and the barrel and forcing liquid out through the piston rod. If an air-chamber is fitted, then on the push stroke some liquid is forced into the air-chamber compressing the air in the chamber. Air compressed in the chamber evens out pressure changes within the barrel.*

Inlet Valve

The inlet valve is positioned where the hose attaches to the barrel. This valve allows liquid into the barrel on the pull stroke. It is a ball valve with the ball held in with an open screw. The original patent shows the connection with a slight bend. Some models have a straight connection.

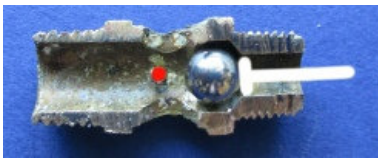
Below. Solo sprayer inlet valve of the 1960s. This appears to be very similar to the patent. Note the bend.

Piston and Piston Valve

Pistons is a single leather cup washer. Leather seals were used in the original sprayers Later seals are rubber 'O' rings. The piston valve is ball valve which opens on the push stroke allowing liquid to flow through the piston into the piston rod and also into the space between the piston and the barrel.

Below. Inlet valve of a modern Solo sprayer. Housing, ball and open retaining screw.

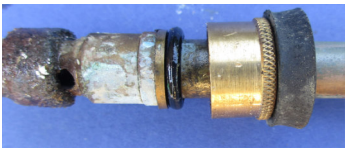
Right. Piston valve in closed position. The flow is blocked so that the end of the inner tube forms a piston, sucking in liquid from the container and at the same time expelling liquid via the hollow piston rod and nozzle.



Left. Piston valve in open position. Liquid flows around the brass ball both into the hollow piston rod and into the barrel. The ball is held in place by a brass pin which passes through the inner tube (end marked with red spot).

Right. 1960s piston and valve. The stuffing box (gland) seals with a leather washer.

Right. 2016 Solo piston with valve. Note use of a rubber 'O' ring to form a seal in the stuffing box. A leather cup washer still forms piston.



Strainer

Below. Solo sprayer strainer of the 1960s. Includes a valve.

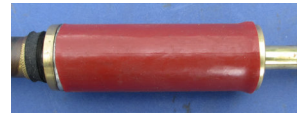
The 1927 patent for the ‘Solo’ type double action sprayer mentions both a valve at the supply end of the sprayer and also one in the strainer. This appears to have been implemented at times in some models but not consistently. The main purpose of the valve in the strainer is to stop liquid running out of the tube when the strainer is removed from the container, but it also helps to support the operation of the inlet valve.

Below. Solo sprayer strainer of the 2016. No valve.

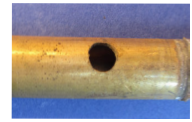
Grips and Air-chamber

There is some variation between various models and over time in the shape of the grips. In models with an air-chamber this forms the forward grip around the piston rod. With continuous pumping the air-chamber will retain some pressure at all times, evening out the flow.

Right. Solo sprayer. Air-chamber forming the forward grip.



Right. The hole in the piston rod allowing liquid to pass into the air-chamber.



Examples

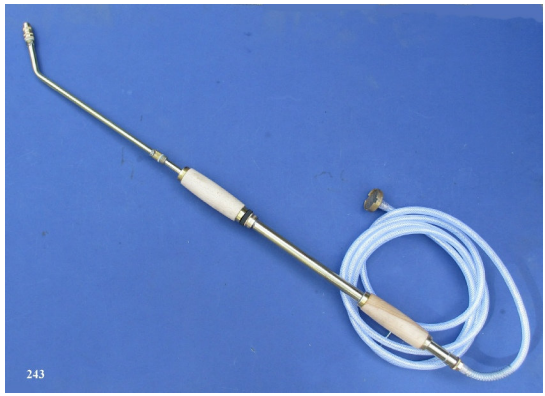
Solo Sprayers Ltd. have been supplying this type of sprayer for over 70 years. The No. 27, No. 29 and No. 80 have changed little over time. The No. 81 (The Star) is mentioned in a 1975 catalogue. It works on the same principle but is a very different sprayer in both materials and construction and may have been an import.

Below. Solo sprayer. Similar to the original patent.

Below. No. 27 - This seems to be the model closest to the patent. The vintage versions have an angled hose connection and the strainer has a valve. The grips are wooden and shaped as seen in the picture below. Internally the parts remain similar over time but with rubber and plastic components replacing the leather ones. The barrel length is about 12" and the internal diameter about 6/10". The external diameter of the piston rod is ½". The 2020 version has a straight hose connection and no valve in the strainer. Provided with a hose clip and various accessories including lances and bends.

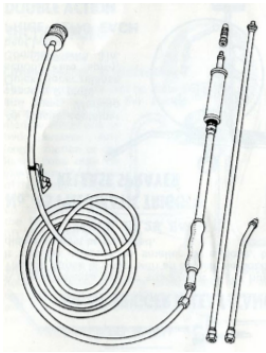
Below. No 28 - Also sold as 'The Gardener'. Picture is of a 1960s version. Sometimes this model seems to have been supplied with a strainer with a valve and sometimes not. It has remained much the same over time. Internally the parts remain similar, but with rubber and plastic components replacing the leather one in more recent times. Handles on the latest versions are not varnished. The barrel length is about 1ft and the internal diameter about ½". The external diameter of the piston rod is about 1/10" smaller than this. Model No.28 has slightly less capacity than Model 27.

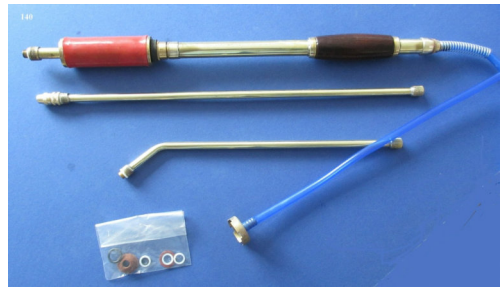
Below. Model No. 28, 2015 version. Note the grips which are not varnished. The piston remains a leather cup washer. Other washers either rubber or plastic. Hose strainer does not have a valve. The 2020 version has a different type of plastic hose strainer.



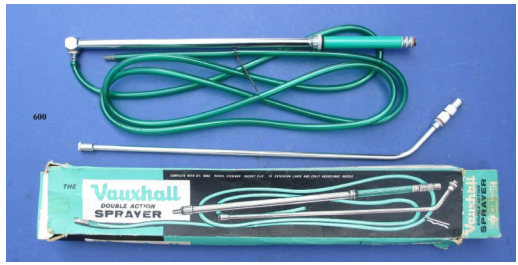
Below. Hose strainer 2020 version.

Below. Solomiser 80. This model had a pressure chamber which doubled as a grip. Below left is the catalogue illustration from the 1960s. Right is model 27-80 Mk III from 2015. The main differences are the shape of the grips, the hose connection and the fact that the 2015 sprayer does not have a valve in the strainer.





Below. No. 81 - The Star. Known only from a 1975 catalogue. However, it looks very similar to the Vauxhall Sprayer sold by Timothy Whites Ltd. and the 'Streamline' sold by R.Harris (Brasssfounders) Ltd. I suspect that it is an import which is being boxed and sold by several different manufacturers.



SOLO TYPE DOUBLE ACTION

Sprayers of the Solo Double Action type were made by W.T.French & Co. Ltd, R.Harris (Brassfounder) Ltd, Philip P. Waldron & Co. Ltd, and Donald Edward (Birmingham) Ltd. All the sprayers I have examined use plastic parts including hoses which suggests that they were made post WW II after the 'Solo' patent expired.

Examples

Below. W.T. French & Son Ltd. Mysto DUPLEX Spraying Outfit. The dimensions of this sprayer are very close to the Solo Model 28. It does not have a valve in the hose strainer. It was provided with three spray nozzles - fine medium and coarse. The instructions say that to create jet nozzles remove the spray plug from the nozzles.

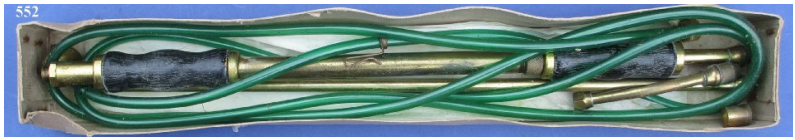
Below. W.T. French & Son Ltd. Spray nozzle with plug removed. When inserted the grooves in the plug form channels for the liquid. When inserted the gap between the top of the plug and the housing form the atomising chamber in which liquid and air mix to form small droplets.

Below. R.Harris (Brassfounders) Ltd. Spraygen 'Hydrant'. Simiar to the Solo, Solemiser 80 with an air chamber. Advertised in 1961 under model number 210. Does not have a valve in the strainer.

Left. Spraygen 'Hydrant' piston valve.

Right. Inlet valve

Below. Philip B Waldron and Co. Ltd. No. 1041 Triumph Spraying Outfit. This sprayer is larger than the Solo sprayers with a barrel length of approximately 16". The external piston diameter is ½" and the internal barrel diameter about 1/10" greater. It has a valve in the strainer.



Below. Philip B Waldron and Co. Ltd. No. 1039 Regent Sprayer. This sprayer is smaller than the No. 1041. The hose connects directly into the barrel and the valve is not accessible. The rear grip is plastic. It has a valve in the strainer. Advertised in 1960.

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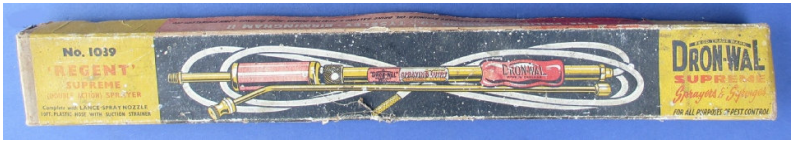

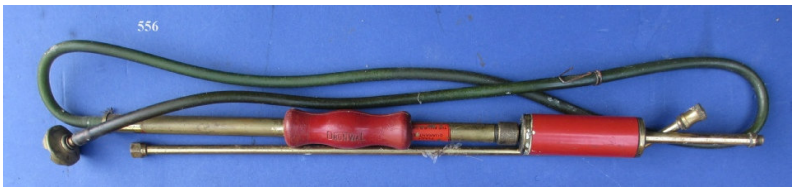

Below. Donald Edwards (Birmingham Ltd). About the size of Solo No. 27. Missing the hose and accessories.

Left. Spraygen 'Hydrant' piston valve.

Right. Inlet valve

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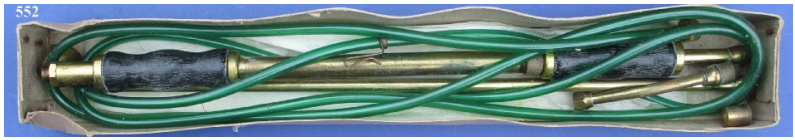

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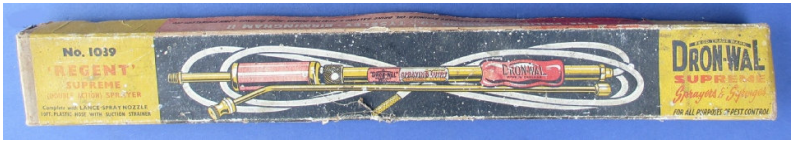
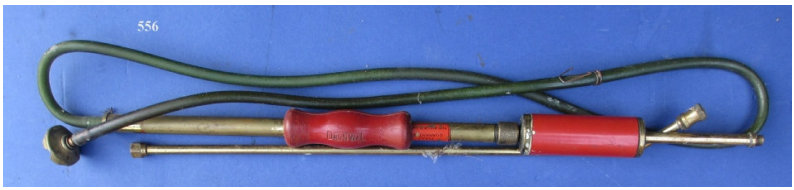




Below. Donald Edwards (Birmingham Ltd). About the size of Solo No. 27. Missing the hose and accessories.

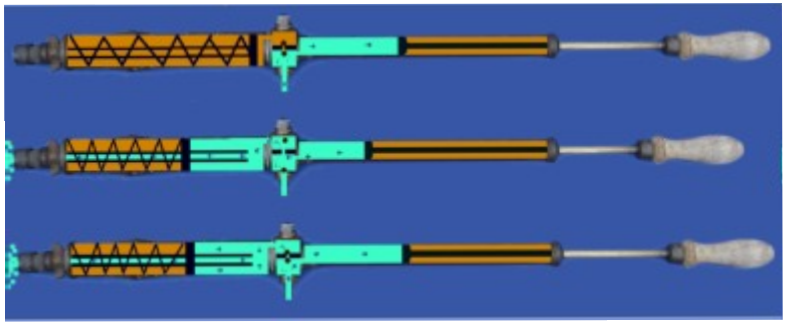
COOPER, PEGLER & CO. LTD
HYDRA

This is of the Force Pump type and works in a similar way to the W.T French & Son Ltd, Mysto Gem 39. However, instead of the air-chamber the sprayer has a spring-chamber which holds a large spring with a piston on the end. The rear part of the sprayer is a force pump. On the push stroke the pump forces liquid in the spring-chamber. This forces liquid through a tube connected to the nozzle and compresses the spring. On the pull stroke the spring forces the liquid through the tube and nozzle. At the same time more liquid is sucked into the barrel. The sprayer can be used at any angle. Cooper Peglar had the world marketing rights to the sprayers made by the French Company Établissements V. Vermorel. The sprayer uses metric 10mm brass balls in the valves which suggests it could be a Vermorel sprayer.

Above. The spring assembly. A tube passes through the spring piston and the centre of the spring.

Below. The sprayer. The hose connects to the centre. Both the valves are located here. To the right is the force pump. To the left is the spring-compression chamber and the nozzle. .

Below/top on the first pull stroke liquid is sucked into pump barrel.
Below/Centre on the push stroke liquid is forced into the spring chamber compressing the spring and forcing some liquid through the outlet tube and nozzle.
Below/Bottom. On the pull stroke liquid is expelled through the outlet tube and nozzle by the spring. More liquid is sucked into the pump barrel ready for the next push stroke.



ALLEN & FREEMAN DOUBLE ACTION

Superficially this sprayer looks similar to the single action force pump sprayers However, internally it is very different consisting of a force pump encased in an outer barrel.

Right. Piston and piston valve. The piston is leather ring around a brass reel. Piston valve is of the ball valve type.

Below. Diagram of Allen & Freeman 'Lombard' Double Action sprayer. There is also a single action sprayer named the 'Lombard' which has the hose connection near the rear of the barrel. The main barrel has an inlet near the front of the sprayer which passes through the outer barrel. At the rear of the outer barrel is a hole which connects the outer and inner barrels. On the pull stroke inlet valve (B) opens and piston valve (A) is closed. Liquid is sucked in through the supply hose. Liquid already behind the piston is forced through the connecting hole and causes the liquid in the outer barrel to be expelled through the nozzle. On the push stroke inlet valve (B) closes and piston valve(A) opens allowing liquid to flow from in front of the piston to behind it. The piston rod occupies space in the main barrel forcing some of the liquid within the main barrel into the outer barrel causing the discharge.

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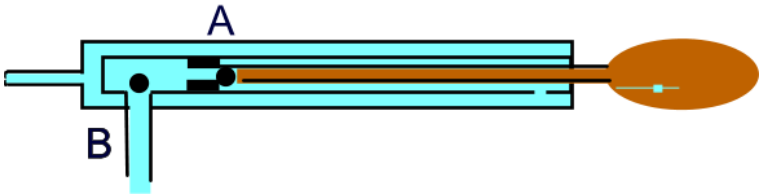


APEX SELF-SUPPLYING

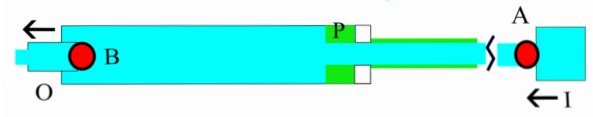
Below. Piston. There is no valve in the piston.

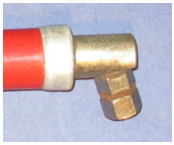
Below. Strainer.

Below. Strainer. The components of the strainer valve. The plastic disc (centre) fits between the two other components.

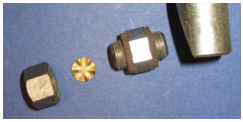
Apex Inflators Ltd. were a bicycle pump manufacturer who used their plastic bicycle pumps as the basis for a syringe and self-supplying sprayer. The self-supplying sprayer is based on a force pump, but with the supply hose connected to a hollow piston rod. It was available from the late 1950s until the early 1970s. Several accessories were available including a 36" extension lance and backpack bucket with a harness. The piston consists of back-to-back cup washers with a metal washer between them. There is a spring on the piston rod which buffers the forward movement of the piston rod on the push stroke. The piston rod is described in the advertisements as non-ferrous metal. A weighted strainer with a valve fits on the end of the hose. The nozzle incorporates a disc valve. This could be made of metal or plastic.

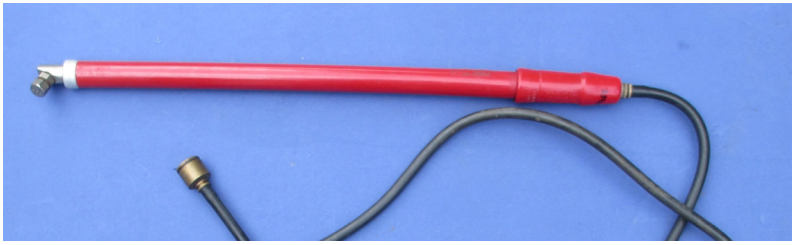
Below. Diagram of operation of Apex Self-Supplying sprayers. On the pull stroke inlet valve (A) is open and outlet valve (B) is closed. Liquid is sucked in via the hollow piston rod. On the push stroke inlet valve (A) is closed and outlet valve (B) is open. Liquid in front of the piston is forced through the outlet (O).





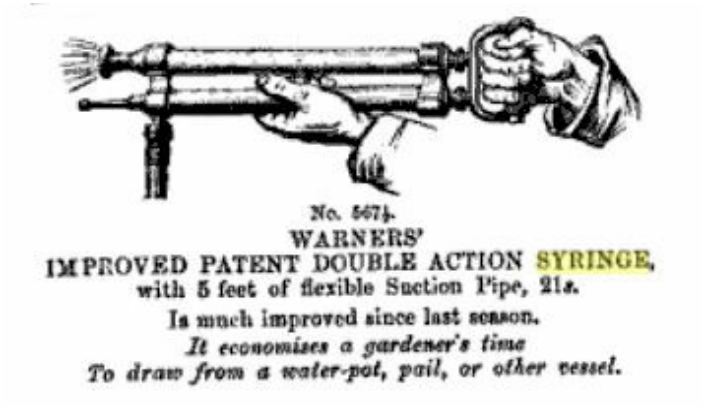
Left. Nozzle. Right. Components of the nozzle. This version uses a metal disc but they can be plastic



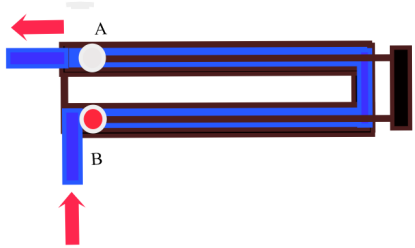


WARNERS' DOUBLE ACTION

This sprayer was provided with 5ft of flexible suction pipe. It had a filter on the end of the pipe. It was sold in 1863 for twenty-one shillings. It was definitely double action and also had a pressure chamber. The sprayer works on the same principal as the HYDROPAULT. They are in effect two single action sprayers joined together.



No. 5674.
WARNERS'
IMPROVED PATENT DOUBLE ACTION SYRINGE,
with 5 feet of flexible Suction Pipe, 21s.
Is much improved since last season.
It economises a gardener's time
To draw from a water-pot, pail, or other vessel.



*Above. Operation of the Warner Double Action Syringe. The same principles applied to the HYDROPULT. On the pull stroke, valve **B** in the lower barrel is closed and valve **A** in the upper barrel open. Liquid behind piston **B** is forced into the upper barrel, through valve **A** then through the nozzle**.** At the same time liquid is sucked in from the container filling the front of the lower barrel. On the push stroke, valve **B** is open and valve **A** closed. Liquid in front of piston **A** passes through the nozzle. At the same time liquid is sucked into the upper barrel from the lower barrel and from the container filling the lower barrel. It is possible that the forward extension to the lower barrel was a pressure chamber. The sprayer probably had as strainer at the end of the hose but would not have required a strainer valve.*

THE HYDROPULT

Below :- The HYDROPULT (Circa 1861)

THE HYDROPULT,

An Invention for Throwing Water by Hand Power.

SECURED BY ROYAL LETTERS PATENT.

PRICE TWO GUINEAS.

Complete, with 24 feet Suction and 8 feet Delivery Hose, Galvanized Wire Strainer, Rose and Sprinkler, and Small Jet,

WEIGHS BUT 6 POUNDS.

Will throw 4 Gallons of Water per minute 40 feet, when worked by the power of one man.

THE HYDROPULT has been recommended as an convenient and useful *Fire Engine*, by the principal FIRE INSURANCE COMPANIES OF GREAT BRITAIN.

Ordered by the War Department as Fire Engines.

Thomas Sivewright, Esq., the eminent Florist, Shirley Hibberd, Esq., and other well-known gentlemen, recommend it as an invaluable Garden Implement. T. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable property in Dwelling-houses from destruction.

Hydropult Offices :—27, Leadenhall Street, London, E.C., and at 260, Regent Street, London, W.

CHARLES P. SUTTON, PROPRIETOR.

[Pamphlet at Shakespeare Hall, by Charles P. Sutton.]

CAUTION.

IMPORTANT TO THE PUBLIC.

The extensive sale of the Hydropult has excited the cupidity of so-called respectable, but in reality, unprincipled manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition and for sale in many of the principal ironmongery and seed establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropults store used. The proprietor, therefore, issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult should examine the machine offered them for sale, and see if it has attached thereto, a label with the following words—"The Hydropult, a Portable Fire Annihilator and Garden Engine, Griffiths and Browett, manufacturers, Birmingham; Charles P. Sutton, general agents; Frost's patent." Unless this label be attached, the machine is not the Hydropult.

Important communication from William Christian, Esq., Manager of the Baldock Bank.—

February 18th, 1861.

Mr. Charles P. Sutton.

Dear Sir,—It gives me great pleasure to forward you particulars respecting the cottages in this town that were saved on the 1st of January by the use of your Hydropult. The property consisted of a row of ten cottages, separated only from the fire that was devastating eleven thatched cottages by a narrow passage about six feet wide. By this useful little instrument I was able to keep the gable end immediately facing the fire continually wet, so that when the flames reached it they had very little to act on. Everyone on the spot seemed very much astonished at the power of this little engine, among whom was the owner of the cottages, who is personally concerned, and is not loser for the Hydropult, his property must have been consumed.

On the same night I had been to another fire in the town with the same instrument, and did great service. Feeling so satisfied with its performance there, made me take it to the second fire, as that little engine was pumping away for over six hours altogether, without doing it the slightest injury.

I remain, yours truly,

W. CHRISTIAN.

The *Hertford Mercury*, in speaking of the above fire, says :—"The town engine was on hand as possible on the spot, but found of little use, owing to the inconvenience of getting water. The adjoining range of tenements were saved almost entirely through the exertion of William Christian, Esq., manager of the Baldock Bank, who brought to the scene a Hydropult, which, being kept well supplied with water by hand buckets, was made to play with great effect."

[See other side.

THE HYDROPULT

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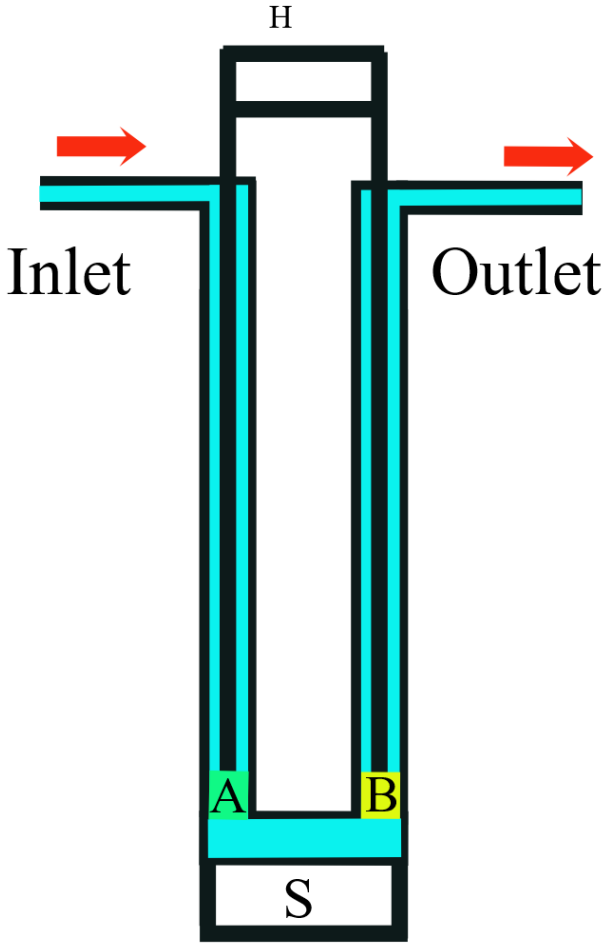
Below :- The HYDROPULT. How it Worked



The pump has a hose connected to the inlet which goes to the source of the liquid. The outlet is connected to a lance and nozzle for spraying the liquid. The pump is held in place with a foot using the stirrup (S). There are valves on the two pistons (A and B). The pump is worked by moving the handle (H) up and down. On the up stroke the piston outlet valve (B Yellow) is closed. Liquid above this piston forced out through the outlet. Inlet piston valve (A Green) is open and liquid is sucked through this and through the inlet hose, filling the sprayer. On the push stroke the outlet valve (B) is open and the inlet valve (A) closed. Liquid below piston (A) is forced through piston valve (B) and through the outlet. Liquid is sucked in behind piston valve A from the liquid source.

Guide to Vintage Sprayers

Michael David Weideli

Volume 4 Manufacturers and Suppliers

4 June 2026

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Chapter 1

Contents

Introduction

Glossary

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Acknowledgements

I am grateful to several people for permission to use their pictures and research. In particular I would like to thank Adrian Lanchester-Hale for permission to use the information once available on his web site.

Introduction

Introduction

This publication aims to bring together all the information I have on UK manufacturers and suppliers of manually powered sprayers. It is primarily intended to cover manufacturers of liquid sprayers used for horticultural purposes, but it also includes manufacturers of sprayers used for limewashing, for cleaning and the application of disinfectants. The publication does not cover businesses that only made agricultural sprayers, those that only made motorised sprayers or those who just made hoses, hose accessories or other water related products (eg. sprinklers and watering cans). Where I have included a manufacturer then I have included limited details of other products they made. For non-sprayers I recommend the booklet *British Hand-Held Garden & Horticultural Equipment (Non-Mechanical), Volume 1 by Jean Smith*. This is available from the web site of the Vintage Horticultural and Garden Machinery Club.

I have tried to go back as far as I can and cover the early inventors and manufacturers where there is information available. The end date is around 1970 at the time when plastic was replacing metal. I have included some plastic products where they are of interest.

The term ‘manufacturer’ is used to mean a company that made a product or caused it to be made. For example, Abol Ltd appear to have had no manufacturing capability, yet they are considered to be a manufacturer because they had sprayers made to their own specifications. Many of the larger manufacturers augmented their range using products made by other manufacturers. Sometimes making minor changes for example by adding their labels and packaging.

Retailers often had sprayers badged with their name and sometimes had minor modifications made to standard products. Retailers are included where I know that they did sell sprayers marked with their name or logo. Sometimes the actual manufacturer is known but often not.

Mergers and takeovers have been going on since the early days. Sometimes, these were very complicated with changes in company name and branding. In the Main Index the entry for the company will be under the name used when the company was at peak production. Alternative company names, trading names and major

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Introduction

brand names are included and cross referenced to the main entry. There is a separate index of brand, range, and model names. It is not unusual for a company name to be that of the founder. In these cases, the entry will be found under the surname. Some manufacturers used brand or trade names. They were used instead of the company name in advertising, on their products and on packaging.

Often a brand names reflected the product being made. Alternatively, they can be based on the manufacturer's name. Range names refer to a group of products. They were most often used in advertising and catalogues and are sometimes on packing, and on the actual products. Model names or numbers were used to identify specific models. They are often used in catalogues and can sometimes appear on the actual product. Models usually remained similar over time but often with minor changes.

The major manufacturers have a chapter covering their history and detailing the sprayers they produced together with other information which I think will be of interest. My interest ends around 1970 when plastic sprayers become the norm, but a few sprayer manufacturers have survived into the 21st Century. Their recent history often involves complex mergers and takeovers by multinational companies. For the sake of completeness, I have summarised this recent history.

There is a separate chapter for the early manufactures, the smaller manufacturers, retailers, and for inventors. The entries are as complete as possible but in some cases very little is known. It is inevitable that the information contained in this publication will not be anywhere near complete. There will always be more to be discovered, but unfortunately in many cases the information has been lost forever.

The majority of the information has come from my own collection of sprayers and documentation. Some comes from other sources, but I have endeavoured to ensure that the information used is free of other copyright. It is not my intention to deliberately infringe the copyright of any other person or organisation. Please let me know if you think I have and I will take whatever action is necessary to rectify the situation. Some images come from 'Grace's Guide to British Industrial History' and this is clearly indicated. If you wish to use these images they should be obtained directly from Grace's Guide.

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Glossary

Glossary

The terms I have used come from patents and catalogues. These terms are summarised below. Please refer to Volumes 1, 2 and 3 of this series for detailed explanations. Some unusual or different variations are sometimes found, and these are covered in the descriptions and photographs.

[Number] - Numbers in square brackets (eg. [123]) are my collection numbers. Use these if you need to refer to a specific sprayer.
{Rarity} - If shown then from 1 to 5 where 1 is common and 5 very rare. This is a rough estimate based on how often I have seen a similar sprayer for sale in the period 2015 to 2020. Since then, sprayers dating early 1950s of before have become increasingly rare.
Air Chamber - The piston in common pumps and force pumps do does not move at a constant velocity and as a result of this the pressure and delivery fluctuate over the duration of the stroke. To even this out an air chamber or air-filled accumulator can be added to the system.
Air vent - A small hole near the barrel end cap designed to let out air from behind the piston when it is pulled backwards. Nearly always present and only mentioned when absent.
Barrel - These are made of brass unless specifically stated otherwise. The length given is nominal. The diameter is to the nearest $^{1}/_{16}$ inches and measured externally. All measurements are imperial because this is most appropriate for the time period covered. Some sprayers are powered by an air pump. In these cases, it is the dimensions of the air pump which are given.
Bend - Bends allow nozzles to get underneath leaves etc. They can be fixed and part of the nozzle or removable. Swivel types are also available allowing different angles to be chosen.
Buffer Washers - These fit between the handle and the barrel end cap to soften the contact between the two. Mentioned only if present.
Collars - Some barrels have collars on one or both ends of the barrels, The nozzles and barrel end caps screw onto these collars. Alternatively, the nozzle and barrel end caps can be directly screwed onto an internal or external thread on the barrel. Collars are more robust. Fixed nozzles are often soldered directly onto the barrel.
Continuous Action Sprayer - A sprayer which sprays on both the push and pull stroke. Normally used for a sprayer where air pressurised on one stroke powers spraying during the next stroke. Sometimes used by manufacturers for double action sprayers.
Cotton Reel Piston - See piston type.
Cup Washer Piston - See piston type.
Decal - A transfer used to identify the manufacturer, brand or model. Once is place, a decal will not have a paper backing which differentiates it from a sticker. Unlike a sticker a decal will not come off in wet conditions but they will wear off.
Double Action Sprayer - A sprayer which sprays on both the push and pull stroke. Technically, where spraying is powered by user input on both strokes but sometimes used by manufacturers for continuous action sprayers. Double action sprayers can use air pressurised on one stroke to power spraying especially at the point between the pull and push strokes.
Drip Preventer - A sleeve on the barrel to catch any liquid running down the barrel when the syringe is used pointing upwards. It would also catch any liquid which finds its way out of the air vent. Refers to the type patented by G & W Purser.

Glossary

Drip Protector - Short cup shaped fittings around the barrel. One fitted by the barrel end cap and the other behind the nozzle. Designed to redirect any liquid running down the barrel when the syringe is used pointing upwards. They would also redirect any liquid finding its way out through the air vent.

Fast-fill Valve - Also known as Quick-fill valves. These allow the syringe to be filled more quickly by opening the valve on the pull stroke. They can be controlled by components of various shapes. The most common is a brass ball (usually ¼ inch in diameter) or by a tack shaped component or a rounded cone. These are held in place in a number of different ways. Separate fast-fill valves have their own entry point for liquid. Integrated fast-fill valves use the input point on the nozzle for filling but restrict this when spraying so as to force the liquid through the spray plug or similar.

Front Valve - Self-supplying sprayers can have a valve immediately before the nozzle. Usually a ball valve.

Garden Engine - The term applied by manufacturers to any small pump used in the garden. It normally refers to a force pump, with or without. and air chamber. However, the term was sometimes used for sprayers based on the common pump or those using rotary or semi-rotary pumps. The pump may have been attached to a container or designed for use with the user's own container. The term declines in use after WW I and is not in common use after WW II.

Handles - These will be made of wood unless stated otherwise, Different woods were in use, but I have not attempted to identify these. Syringe handles normally have a ferrule and are held in place with a brass rivet which passes through the piston rod.

Input Valve - A valve usually at the end of the barrel which allows liquid into the barrel at the appropriate time. Usually a ball valve.

Jet Nozzle - Output is through a single orifice giving a straight jet.

Lance - An extension fitting on the sprayer output or output hose with the nozzle on the other end. Usually of brass but can be bamboo with a brass interior. The length given for lances are nominal and do not include the length of any bend.

Piston Rod - The material it is made of and the external diameter are usually given. They can be solid or hollow and I have used my judgement where this is not obvious.

Piston Spring - There is sometimes a spring fitted on the piston rod behind the piston. This gives some resistance when the piston rod is pulled back to nearly its full extent, Mentioned only if present.

Piston Type - Cotton reel type refers to piston which without the packing look like traditional cotton reels. They are also referred to as cotton packed pistons or just packed pistons. The packing is often missing or obviously replaced. Sometimes there is the remains of packing which suggests that something special was used. Cup washer pistons are sometimes known as bucket washer pistons or bucket plungers. Where used for liquids they are normally used back-to-back. In air pumps there is usually just one which is forward facing. Normally, cup washers are made of leather, but sometimes they appear to be made of a synthetic material. Often only parts remain, and I have used my judgement about what was originally present.

Piston Valve - Used on self-supplying sprayers and sprayers based on the common pump to allow liquid to pass from one side of the piston to the other. This can be a sliding valve or one controlled by a ball.

Plate - A separate plate put onto a sprayer or component to identify the manufacturer, brand or model. Usually, but not always made of brass.

Plunger - Refers to the piston, piston rod and handle. A term used by some manufacturers to refer to the piston.

Polychromatic Gold Finish - multi−tone metallic gold lacquer.

Glossary

Quick-fill Valve - See fast-fill valve.
Rose Nozzle - This is the simplest form of nozzle consisting of a perforated disc. The number of holes vary in size and quantity to give different size drops. At the moment I have made no attempt to identify of classify the different ones.
Self-supplying Sprayer - A hand-held sprayer where the input is via a hose which goes into a container. Can refer to single action, double action or continuous action.
Single Action Sprayer - Used for a sprayer which spray only on one stroke.
Spray Head - Used where the fast fill valve is shared by different types of nozzle (eg. rose and jet).
Spray Nozzle - A nozzle designed to a very fine spray by swirling the liquid around in an atomising chamber. The spray nozzle may incorporate a separate or integrated fast-fill valve.
Spray Plug - The normally way of producing a spray is to force liquid through a narrow channel into an atomising chamber. In many spray nozzles the narrow channels are formed by spiral grooves in the spray plug. When inserted into the nozzle grooves form the channels. Unless otherwise mentioned spray nozzles will use a spray plug.
Strainer - Normally at the end of a hose or barrel in a self-supplying sprayer or pump. Sometimes incorporating a valve. The term is sometimes used for the large sieves used to strain the lumps out of liquids.
Stuffing Box - A stuffing box is a gland or seal forming part of the barrel end cap which stops liquid escaping around the piston rod. These are using stuffed with some form of padding which forms the watertight seal. This is very often deteriorated to the point where the material cannot be identified. To be a stuffing box it must be possible to unscrew the top from the barrel end cap and replace the material. Stuffing boxes are only mentioned in the description if present. Some sprayers have a pseudo stuffing box which forms part of the barrel end cap. This can't be unscrewed but helps to stabilise the piston.
Tundish - A special type of funnel for filling a pressure sprayer. Sometimes there is a holder for the tundish on the sprayer.

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C Jackson & Son	Chapter 51 (Sundry)
Jeyes Fluid	Chapter 51 (Sundry)
Johnston	Chapter 49 (Early)
Josiah Keighley	Chapter 52 (Inventors)
Kent Engineering & Foundry Ltd	Chapter 51 (Sundry)
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H Kirby & Co	Chapter 51 (Sundry)
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Leslie's Sheet Metal Works Ltd	Chapter 51 (Sundry)
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Henry Lisle	Chapter 52 (Inventors)
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John Macqueen	Chapter 52 (Inventors)
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Martsmith	see Martineau & Smith
Mawes	Chapter 53 (Misc)
Merryweather & Sons Ltd	Chapter 49 (Early).
Metal Box Co Ltd	**Chapter 29**
Micron Sprayers Ltd	Chapter 51 (Sundry)
H T Milward & Sons Ltd	**Chapter 30**
George Monro & Son	Chapter 50 (Retailers)
Monitor Engineering & Oil Appliances Ltd	**Chapter 31**
Moore and Company	Chapter 50 (Retailers)
Morgan-Lee	Chapter 53 (MIsc)
John Morris & Sons	Chapter 49 (Early)
Mysto	see W T French
Nesthill	see R Harris
New Hygiene Ltd	Chapter 51 (Sundry)
Newton, Chambers Co	Chapter 51 (Sundry)
Samuel Nye & Co	Chapter 51 (Sundry)
Osman & Co. London	Chapter 51 (Sundry)
S Owens & Co	Chapter 49 (Early)
Robert William Page	Chapter 52 (Inventors)
Parker-Hale	Chapter 51 (Sundry)

Main Index - Pedley to Skelton

W R R Pedley & Co Ltd	Chapter 51 (Sundry)
William Michael Perry	Chapter 52 (Inventors)
Pest Control Cambridge	Chapter 51 (Sundry)
Albert Phillips Ltd	Chapter 51 (Sundry)
John Phillips (Brass Foundry & Lamp Co) Ltd	Chapter 51 (Sundry)
Plant Protection Ltd	see Abol Ltd
Pontiflex & Wood Ltd	Chapter 49 (Early)
Potter and Moore Ltd	Chapter 51 (Sundry)
William John Powell	Chapter 52 (Inventors)
Practolin Products Co	Chapter 51 (Sundry)
Primus	Chapter 51 (Sundry)
Wiliam Barber Press	Chapter 52 (Inventors)
Presto Gear Case Component Co	Chapter 51 (Sundry)
Josiah Pumphrey	Chapter 52 (Inventors)
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Rega Australia	Chapter 53 (Misc)
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Rentokil	Chapter 51 (Sundry)
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Robinson Brothers Ltd	**Chapter 33**
Emile Robinson	Chapter 52 (Inventors)
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Ronald C Salt	Chapter 51 (Sundry)
Henry Saunders	Chapter 52 (Inventors)
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Secto Co Ltd	Chapter 51l (Sundry)
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Sheen	Chapter 53 (Misc)
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William Mathews Siddall	Chapter 52 (Inventors)
Augustus Siebe	Chapter 49 (Early)
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Smith Sprayers Ltd	Chapter 51 (Sundry)
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Sprhao	see R Harris
Stemco	see Esso
John Sanders Stevens	Chapter 52 (Inventors)
Herbert Stone	Chapter 52 (Inventors)
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George Frederick Strawson	Chapter 52 (Inventors)
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Thresh Disinfector Co	see Benton & Stone Ltd
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Tidswell	Chapter 51 (Sundry)
W J Tilley	Chapter 49 (Early)
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Tom Thumb Brand	see Ernest Hill
Tomlinson and Hayward Ltd	Chapter 51 (Sundry)
Tonge & son	Chapter 49 (Early)
L C Tordoff and Sons	Chapter 50 (Retailers)
Francis James Townsend	Chapter 52 (Inventors)
Townson & Coxson	**Chapter 41**
Treggon & Co	Chapter 49 (Early)
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Walter White	Chapter 52 (Inventors)
E A White Ltd	see Abol Ltd
Timothy Whites	see Boots
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P L Willcox (Willcox Group)	see P Waldron and Four Oaks
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	Allen & Freeman
	Apex Sprayers
	Benton & Stone
	Crossland & Wood
	Eclipse Sprayers
	Donald Edwards
	Elso Products
	Four Oaks
	W T French
	R Harris (Brassfounders)
	Thomas Hickin
	Martineau & Smith
	Monitor
	G & W Purser
	Robinson Bros
	Smith & Davis
	Testar & Swain
	Townson & Coxson
	Vento Manufacturing Co
	Philip B Waldron
	Joseph Walker
	John Wright & Co
ESSEX	Solo Sprayers
GLAGOW	Comessol
HERTFORDSHIRE	Cooper & Newphew
KENT	Abol Ltd
	ACME Sales
	Drake & Fletcher
	William Weeks
LANCASHIRE	Talfacto Ltd
LEICESTERSHIRE	Germstroyd
LONDON	Hawker & Botwood
	Holder Harriden
	Metal Box
	J Tylor
MANCHESTER	Stott Distributor Co
	Baxendale
SHEFFIELD	Ernest Hill
	C G Lawson
	C T Skelton

Location Index

STAFFORDSHIRE
Crossland & Wood
Thomas Hickin
Stonehouse Works Co

WARWICKSHIRE
T N Waldron

WORCESTERSHIRE
W J Craven
Henry Milward

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Chapter 3

Index

Brands, Ranges and Models

Index - Brands, Ranges and Models

Names highlighted in red refer to products which are outside the scope of this publication.

A.D	C J Adie and Nephew Ltd
ABBEY	Eclipse Spraying Co Ltd
ACE	Solo Sprayers Ltd
ACORN	Allen & Freeman
AF	Allen & Freeman
ALBADURE	Cooper, Pegler & Co Ltd
ALPHA	Blake Brothers Ltd
AMERRY	Testar & Swain Ltd
ANDEFF	Allen & Freeman
AP	E Allman & Company Ltd
APEX 1	Apex Sprayers Ltd
APEX 2	Apex Sprayers Ltd
APPLE-BEE	H. E. Applebee & Co
ARBROGARD	E Allman & Company Ltd
ARMADA	Drake & Fletcher
ARUNDEL	Ernest H Hill Ltd
ATTACHABLE	Four Oaks Spraying Machine Co
AUSTRALIA	Cooper, Pegler & Co Ltd
AUTO-ARBOREX	Cooper, Pegler & Co Ltd
BARON	Stonehouse Works Co
BARROW	Ernes H Hill Ltd
BATTLE	Four Oaks Spraying Machine Co
BEACON	Smith and Davis Ltd
BEANCO	Baxendales
BELUMNITE	W J Craven & Co Ltd
BLOWFINE	Cooper, Pegler & Co Ltd
BO-PARK	Bodhill Parker (1922) Ltd
BODKIN (Flame gun)	Four Oaks Spraying Machine Co
BRIDGEWATER	Four Oaks Spraying Machine Co
BRITON FERRY	Britain Ferry Chemical Co Ltd
BURMEX	Townson & Coxson Ltd
BURMOS	Townson & Coxson Ltd
CANAPSACK	Benton & Stone Ltd
CASCADE	Cooper, Pegler & Co Ltd
CADET	Abol Ltd
CHAMPION	R Harris (Brassfounder) Ltd
CHARLOCK	Cooper, Pegler & Co Ltd
CHALLENGER	Four Oaks Spraying Machine Co
CHELSEA	Four Oaks Spraying Machine Co
CITADEL	Crossland & Wood Ltd

Index - Brands, Ranges and Models

COLONIAL	Four Oaks Spraying Machine Co
COMET	W T French
CONNAUGHT	Martineau & Smith
CONONMIST	Condrup Ltd
CONQUEROR	Four Oaks Spraying Machine Co
COOPER'S PROTECTOR	Benton & Stone Ltd
COSMO	Ernest H Hill
COUNTY	W T French & Son
COVENT	Stonehouse Works Co
CRAVEN	W J Craven & Co Ltd
CRESCENT	W T French & Son
CZAR	Stonehouse Works Co
DAIRYMAN	Four Oaks Spraying Machine Co
DAISY (Lawn sprinkler)	Four Oaks Spraying Machine Co
DEMON	Robinson Brothers Ltd
DENBEIGH	W T French & Son
DEVON	Martineau & Smith
DIAMOND (Mark)	Chapter 53 (Misc)
DRAGON	Eclipse Spraying Co Ltd
DRIFTA	W J Craven & Co Ltd
DRON-WALL	Phlip B Waldron & Co Ltd
DUAL	Cooper, Pegler & Co Ltd
EARLY BIRD	W J Craven & Co Ltd
EASISPRAY	Ernest H Hill Ltd
EASISPRAY`	W T French & Son
EASTWOOD	Solo Sprayers Ltd
ÉCLAIR	Cooper, Pegler & Co Ltd
ÉCLAIR	Fout Oaks Spraying Machine Co
ELTEX	Georg H Elt Ltd
ELY	Four Oaks Spraying Machine Co
EMPEROR	Stonehouse Works Co
EMPIRE	Martineau & Smith
ENOTS	Benton & Stone Ltd
EVEREST	Allen & Freeman
EVEREYMAN	Allen & Freeman
EXCELSIOR	Cooper, Pegler & Co Ltd
EXCELSIOR	Four Oaks Spraying Machine Co
FAIRY	Stonehouse Works Co
FALCON	Cooper, Pegler & Co Ltd
FAMOS	See Miscellaneous Chapter 53
FARMER	Four Oaks Spraying Machine Co
FARMFIELD	Four Oaks Spraying Machine Co
FALCON	Cooper, Pegler & Co Ltd

Index - Brands, Ranges and Models

FERRET	W J Craven & Co Ltd
FETCHAM	W T French & Son and Rentokil
FLIT	Esso Petroleum Co Ltd
FLORA	Solo Sprayers Ltd
FLORAL DEW	G & W Purser Ltd
FLORASPRAY	Benton & Stone Ltd
FLORIST'S FRIEND	W T French & Son
FLORIST'S FAVOURITE	Martineau & Smith
FNP Manufacturing Co	Solo Sprayers Ltd
FOG	Cooper, Pegler & Co Ltd
FOUR OAKS	Four Oaks Spraying Machine Co
FREEMAN	Allen & Freeman
G&WP and GWP	G & W Purser Ltd
GARDEN SPRAY	E Allman & Company Ltd
GARDENER	Solo Sprayers Ltd
GARDEN LOVER	Sheath Bros
GEM	W T French & Son
GHR (Mark)	Chapter 53 (Misc)
GLENBOURNE	Ernest H Hill Ltd
GLYDA	H Milward & Sons
GOLD SHIELD	Testar & Swain Ltd
GREEN ARROW BRAND	Willet and Robinson
GREEN LABEL	Donald Edward Ltd
GRUB SPRAYER	AA Baker Ltd
HANDISPRAY	Ernest H Hill Ltd
HANDOP	E Allman & Company Ltd
HANDY	Four Oaks Spraying Machine Co
HARRODS LTD	Retailers
HAWS	Eclipse Spraying Co Ltd
HEADLAND	Martineau & Smith
HEADLAND	Cooper, Pegler & Co Ltd
HEREFORD	W T French & Son
HIGHLAND	W T French & Son
HILLS	Harris (Brassfounders) Ltd
HOT ROD	W T French & Son
HOLMWOOD	Ernest H Hill Ltd
HYDRA	Cooper, Pegler & Co Ltd
HYDRALUX	W J Craven & Co Ltd
HYDRANT	Harris (Brassfounders) Ltd
HYDROJECT	(Uncertain see William Cooper)
HYDROPULT	Griffiths & Browett
HYJECT	Benton & Stone Ltd
HYPRESS	Ernest H Hill Ltd

Index - Brands, Ranges and Models

IDEAL	Four Oaks Spraying Machine Co
IRON ARM	H Milward & Sons Ltd
JAS SOUTHERTON	Martineau & Smith
JET D'EAU	G & W Purser
JEWEL	Ernes H Hill Ltd
JP	John Phillips
JUNIOR	Abol Ltd
JUNIOR	Cooper McDougal & Robertson
KAISER	Stonehouse Works Co
KATAKILLA	Cooper McDougal & Robertson
K & S (Mark)	Chapter 53 (Misc)
KENSINGTON	Four Oaks Spraying Machine Co
KENT	Four Oaks Spraying Machine Co
KILLASPRAY	Testar & Swain Ltd
KING	Ernest H Hill Ltd
KING	Stonehouse Works Co
KNOWLES	Thomas Hickin & Son Ltd
LADYWOOD	W T French & Son
LEADER	Eclipse Spraying Co Ltd
LIGHTENING	A C Wells & Co Ltd
LIMESPRAY (Electric)	Four Oaks Spraying Machine Co
LITTLE GIANT	Four Oaks Spraying Machine Co
LITTLE WONDER	Eclipse Spraying Co Ltd
LITTLE WONDER (Blower)	Four Oaks Spraying Machine Co
LOMBARD	Allen & Freeman
M15 KNAPSACK	E Allman & Company Ltd
MACKENSIE	Four Oaks Spraying Machine Co
MACKENSIE	W T French & Son
MANEY	Four Oaks Spraying Machine Co
MARQUIS	The Stonehouse Works Co
MARTSMITH	Martineau & Smith
MARVEL	Four Oaks Spraying Machine Co
MASTER	Phlip B Waldron & Co Ltd
MAXIMA	Ernest H Hill Ltd
MIDGET	Solo Sprayers Ltd
MIDGET	W J Craven & Co Ltd
MIDGET	W T French & Son
MIKADO	Stonehouse Works Co
MINOR	Abol Ltd
MISTIFIER	Drake & Fletcher Ltd
MONARCH	Stonehouse Works Co
MULTIPLE	Robinson Brothers Ltd
MONARCH	Testar & Swain Ltd

Index - Brands, Ranges and Models

MONIMIST	Monitor Oil Appliances Ltd
MONROSE	Monro (Retailers)
MULTISPRAY	E Allman & Company Ltd
MY LADY	W T French & Son
MYSTIC	W T French & Son
MYSTO	W T French & Son
NATIONAL	William Wood & Son Ltd
NEO-LEO	Cooper, Pegler & Co Ltd
NESTHILL	Ernest H Hill Ltd
NESTOR	Ernest H Hill Ltd
NEW BOND	W T French & Son
NEW IDEAL	Four Oaks Spraying Machine Co
NIPPY	W T French & Son
NOE	Cooper, Pegler & Co Ltd
NON SPLASH	W T French & Son
NURSERYMAN	W T French & Son
OAKLAND	Ernest H Hill Ltd
ONDINE	Cooper, Pegler & Co Ltd
ONE SPRAY	Robinson Brothers Ltd
ORCHARD	Martineau & Smith
OSPREY	Dorman Sprayers Ltd
OXFORD	Martineau & Smith
PEERLESS	G & W Purser Ltd
PERCY RUBBRAS	G & W Purser Ltd
PERFECTA	William Wood & Son Ltd
PLAFOG	Cooper, Pegler & Co Ltd
PINE SPRAY	Robinson Brothers Ltd
PIXIE	Ernest H Hill Ltd
PLANTECTOR	W T French & Son
POLYPACK	E Allman & Company Ltd
POMP MOTH PROOFER	Potter and Moore Ltd
POPULAR	Four Oaks Spraying Machine Co
POPULAR	W T French & Son
PRINCESS	Four Oaks Spraying Machine Co
PRESIDENT	Stonehouse Works Co
PRESTO	Cooper, Pegler & Co Ltd
PROGRESS	Solo Sprayers Ltd
Q-SPRAYER	Metal Box Co Ltd
QUADRANT	Metal Box Co Ltd
QUEEN	Stonehouse Works Co
RAJAH	Stonehouse Works Co
RANGER	Allen & Freeman
RAPID	Solo Sprayers Ltd

Index - Brands, Ranges and Models

RBS	Robinson Brothers Ltd
RED SHIELD	Donald Edward Ltd
RED SHIELD	Testar & Swain Ltd
REGENT	Phlip P Waldron & Co Ltd
REGINA	Ernest H Hill Ltd
REMANCO	W R R Pedley & Co Ltd
RES	Cooper, Pegler & Co Ltd
ROCHESTER	Four Oaks Spraying Machine Co
ROSENJET	Harris (Brassfounders) Ltd
ROSS	Four Oaks Spraying Machine Co
ROTADUSTO (Blower)	Four Oaks Spraying Machine Co
ROYAL	Four Oaks Spraying Machine Co
RUBBRAS	G & W Purser Ltd
RUBBY	Ernes H Hill Ltd
RUNABOUT	Ernes H Hill Ltd
SABRE	Harris (Brassfounders) Ltd
SALVA	Cooper, Pegler & Co Ltd
SAMPSON	W T French & Son
SANITOR	Ernes H Hill Ltd
SAPOM	Cooper, Pegler & Co Ltd
SCIENTEX	Rentokil Ltd
SECTOSPRAY	Secto Co Ltd
SELVIE	G & W Purser Ltd
SEM	Cooper, Pegler & Co Ltd
SENIOR	Four Oaks Spraying Machine Co
SHENSTONE	Four Oaks Spraying Machine Co
SHREWSBURY	W T French & Son
SIMPLEX	W T French & Son
SKATTRA	G & W Purser Ltd
SLAYER	Testar & Swain Ltd
SOLOETTE	Solo Sprayers Ltd
SOLOEX	Solo Sprayers Ltd
SOMERSET	Four Oaks Spraying Machine Co
SOUTHERN CROSS	Four Oaks Spraying Machine Co
SOVEREIGN	Testar & Swain Ltd
SOX	Hawker & Botwood Ltd
SPEEDY SPRAY	Solo Sprayers Ltd
SPRAY-ALL-WAYS	H Milward & Sons Ltd
SPRAYMAKER	Ernest H Hill Ltd
SPRAYMOBILE	Four Oaks Spraying Machine Co
SPRAYSAC	Harris (Brassfounders) Ltd
SPRHAO	Harris (Brassfounders) Ltd
SPRAYGEN	Harris (Brassfounders) Ltd

Index - Brands, Ranges and Models

STAFFORD	Four Oaks Spraying Machine Co
STAR	Solo Sprayers Ltd
STONEHOUSE	Stonehouse Works Co
STONES	
ADJUSTABLE PLUNGER	Benton and Stone Ltd
STRATTON	Four Oaks Spraying Machine Co
STREAMLINE	Harris (Brassfounders) Ltd
STREETLY	Four Oaks Spraying Machine Co
SUCCA	Ernes H Hill Ltd
SUPER	Stonehouse Works Co
SUPER TRIUMPH	Eclipse Spraying Co Ltd
SWIFT	W T French & Son
SYBOL	Abol Ltd
T.H. & S.	Thomas Hickin & Son Ltd
TALA	Taylor Law & Co Ltd
TELESPRAY	G & W Purser Ltd
TESWAIN	Testar & Swain Ltd
THERMIDOR	Samuel Heath & Sons Ltd
TOBRUK	Wm Corry
TOM THUMB	Ernest H Hill Ltd
TORNADO	W J Craven & Co Ltd
TORPILLE	Cooper, Pegler & Co Ltd
TRIUMPH	Four Oaks Spraying Machine Co
TELESPRAY	G & W Purser Ltd
TESWAIN	Testar & Swain Ltd
TOBRUK	Wm Corry
TOM THUMB	Ernest H Hill Ltd
TORNADO	W J Craven & Co Ltd
TORPILLE	Cooper, Pegler & Co Ltd
TRAFALGAR	G & W Purser Ltd
TRIUMPH	Four Oaks Spraying Machine Co
UNIVERSAL	Thomas Green & Son Ltd
UNO	G & W Purser Ltd
UTILITY	W T French & Son
VAUHALL	Boots the Chemist
VERMORAL	Cooper, Pegler & Co Ltd
VESEY	Four Oaks Spraying Machine Co
VICTOR	Four Oaks Spraying Machine Co
VICTOR	G & W Purser Ltd
VINCENT	W T French & Son
WALDREX	T N Waldron
WALDUST	T N Waldron

Index - Brands, Ranges and Models

WARLEY	Eclipse Spraying Co Ltd
WARWICK	Four Oaks Spraying Machine
WEEFORD	Four Oaks Spraying Machine Co
WELLINGTON	Ernest H Hill Ltd
WHIRLPOOL	W J Craven & Co Ltd
WIKEHAM	Included in W T French & Son
WINCHESTER	W T French & Son
WISBECH	Four Oaks Spraying Machine Co
WIZARD	Four Oaks Spraying Machine Co
WONDER WEEDER	W T French & Son
WORCESTER WARE	Metal Box Co Ltd
WULFRUM	H Kirby and Co
WUNDA	Harris (Brassfounders) Ltd
YARDLEY	Allen & Freeman
YENTON	Four Oaks Spraying Machine Co
ZALDECIDE	See Newton, Chambers

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Chapter 4

ABOL

E A White Ltd

Abol Ltd

Plant Protection Ltd

ICI Ltd

ABOL

Contents

Introduction

History

A brief history of the ‘ABOL’ Brand.

The Syringes

Overview

Oval Plate - No Numbers. Sprayers with an oval manufacturer’s plate but with no model number.

Oval Plate - Models 1 to 6. Sprayers with an oval manufacturer’s plate which have a model number, but which do not mention “White’s Superior Insecticide”.

Oval Plate - White’s Superior. Sprayers with an oval manufacturer’s plate which have a model number, but which also mention “White’s Superior Insecticide”.

NRS - Silver Medal Models 4 to 6. Sprayers with an oblong manufacturer’s plate which mentions the National Rose Society recommendation and also the Silver Medal.

NRS - Recommended Models 4 to 6. Sprayers with an oblong manufacturer’s plate which mentions the National Rose Society recommendation but not the Silver Medal.

Abol Minor, Junior and Cadet.

Backpack Sprayer

Small Pneumatic

Appendices

Advertising and promotional material, invoices etc.

ABOL

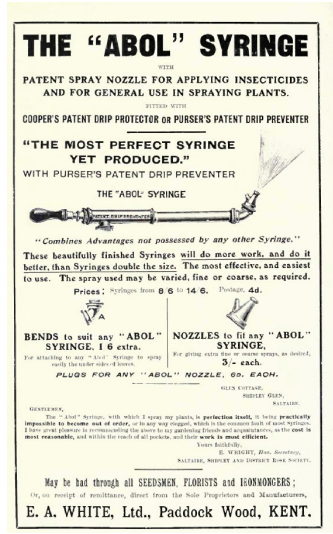
Introduction

The brand name ‘ABOL’ was introduced in the late 1890s. First used for pesticides (ABOLish aphids) it was then used on the sprayers designed to apply them. Sprayers bearing the ABOL name were produced from the late 1890s until the 1960s. The classic models, ABOL 4,5 and 6, remained largely unchanged from 1900 to the mid 1950s when production ceased.

The focus is on the actual sprayers sold under the ABOL brand. However, it also includes an outline history of the companies involved from the time of Edward Albert White who started the brand to Imperial Chemical Industries Ltd who kept the brand name for some of its products until the 1990s.

ABOL syringe sprayers are generally easily identified as the majority have a brass manufacturer’s plate on the barrel or drip preventing sleeve. Many of the nozzles are embossed ABOL. It is possible to fairly accurately date ABOL syringe sprayers from the plate. The nozzles are also useful in dating, but because the nozzles are interchangeable a degree of caution is required as they may not be contemporaneous with the barrel.

1906 Advertisement



1909 Advertisement

ABOL

History

The Early Years - 1895 to 1920 - E A White

Edward Albert White (born 1844, died 1922) was a hop farmer with a farm at Beltring, Paddock Wood, Kent. He had a special interest in the pests of hops, including spider mites, aphids and moulds. More about his farm and life history can be found in the book 'The Encircling Hop' by Margaret Lawrence.

Around 1895 E A White developed a safe pesticide for use on hops (SPIMO). He realised that with some minor modifications this could also be used by gardeners, and this resulted in ABOL the safe insecticide. First registered in 1898, ABOL was a soap-based product with ammonia, some nicotine and extract of quassia wood. This wood, thought to be an insect deterrent, was imported from Jamaica in large logs and an extract made by chipping the wood and soaking it.

To make best use of the ABOL insecticide a syringe was needed to apply the insecticide as a fine spray. E A White was instrumental in the design of a new nozzle for syringes. However, even though Kelly's Directory 1913 lists him as a 'Syringe Maker' neither he nor the later companies appear to have had any syringe manufacturing capability.

The early sprayers which have the Purser's drip preventer are very similar to those being sold at the time by G & W Purser Ltd of Birmingham. There is also a joint patent (GB191014969A dated 21 June 1911) by A J Purser and E A White for a garden syringe plug. This would suggest a close association between the two companies and that G & W Purser Ltd made the early ABOL sprayers with the drip preventing sleeve. The position regarding the syringes with the Cooper's drip protectors is less clear. The Cooper's patent (Frederick Cooper of Handsworth No. 2643 dated 17th June 1881) was still in date. Benton & Stone were the only major manufacturer using these at the time so they may have made the sprayers for ABOL but there is no evidence for this.

In 1912 E A White was involved in the formation of the Yalding Manufacturing Company Ltd. There is a photograph of the SPIMO factory at Beltring, so it is probable that ABOL was also made there. Possibly, the manufacturer of both was transferred to

the Yalding factory. Although Abol Ltd was formed around 1900 trading was still carried out under the name of E A White Ltd until 1920.

1920 to 1937 - John Herbert Waghorn

In 1920 E A White retired, and Whitbread took over both Abol Ltd and the farm. They needed to do so because they relied heavily on the variety of hop grown there. The managing director of Abol Ltd was John Herbert Waghorn (born 1883, died 1956). He started working at the farm immediately on leaving school and remained involved with it until 1949 when ill health forced his retirement. His involvement with Abol Ltd seems to have stopped in 1934 when he resigned for personal reasons,

In the 1920s Abol Ltd was selling a wide range of garden chemicals including insecticide, fertiliser, lime sulphur wash, soil pest destroyer, shading, lawn sand, wood preservative, worm killer and white fly compound. Many of these were probably produced at the Yalding factory. It is possible that G & W Purser Ltd continued to make the ABOL sprayers, but there is no documentary evidence to support this.

There is a photograph (copyright) of a Tilling−Stevens lorry, registration KN 3855, dating from around 1923. It carries the wording “SPIMO” HOP WASH above the windscreen. On the slatted sides are the inscriptions “ABOL” FRUIT TREE WASH and, below this, “ABOL” GARDEN REQUISITES.

The use of lowercase letters for ‘Abol’ on the insecticide appears to have started as early as 1920. Some sprayers dating from 1934 also have ‘Abol’ in lowercase but this seems very variable.

In 1925 the firms of McDougall & Robertson, William Cooper & Nephews, Tomlinson & Hayward Ltd and Abol Ltd merged to form Cooper, McDougall & Robertson Ltd. Abol Ltd handled the development of Coopers’ horticultural trade. This merger doesn’t appear to have had a major impact on the management of Abol Ltd. Cooper, McDougall and Robertson Ltd have very few sprayers, so it may be that they also did not have any manufacturing capability.

ABOL

1937 to 1964 - Plant Protection Ltd

In 1937 Plant Protection Ltd was formed. This company was a subsidiary of Imperial Chemical Industries Ltd (ICI) and a joint venture with Cooper, McDougall & Robertson Ltd. The Abol trademark was transferred to Plant Protection Ltd and Abol Ltd became a non-trading company still owned by Cooper, McDougall & Robertson Ltd.

The actual company Abol Ltd was formed about 1900 and ceased trading in 1937 when Plant Protection Ltd was formed. Plant Protection Ltd continued selling sprayers using the ABOL brand name until the late 1950s. The ABOL trademark for sprayers was not registered until 2 December 1938 and expired in 2001.

Sprayer manufacture mostly ceased during WW II, because most brass founders were manufacturing items for the war effort. After the war, sprayer models 4,5 and 6 continued to be produced. I have a box for an ABOL No.5 sprayer dated July 1949. The latest illustration I have seen for a sprayer which looks like a standard ABOL sprayer is a 1950 Plant Protection Ltd advertisement for SYBOL.

The ABOL soap-based product was being made in the 1920s, but it appears to have been replaced at some point in time by a derris based product. At one time both may have been available. In 1939 Abol insecticide, Katakilla (a Cooper's derris insecticide), and ICI products were all being sold by Plant Protection Ltd. In 1944 there is mention in the Gardeners Chronicle of the ABOL insecticide being improved and containing liquid derris. In their Growers Guide of 1948 no mention is made of Abol products. However, in 1964 the ICI product ABOL-X was being marketed.

Although the Abol trademark had been transferred to Plant Protection Ltd in 1937, Abol Ltd remained part of Cooper, McDougall & Robertson, but it hadn't been trading since 1937. ICI finally bought Abol Ltd in 1964.

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The Syringes

Overview

ABOL syringes are made of brass with a wooden handle. The syringe barrels are made of brass tubing with walls about ⅛ inch thick. The nozzle fits onto one end of the barrel, and at the other end is the barrel end cap which incorporates a stuffing box (gland). The piston rod passes through the stuffing box and barrel end cap. Piston rods are made of brass tubing. At one end of the piston rod is the piston and at the other end the wooden handle.

Various spray nozzles are used on ABOL syringes. The classic ABOL models 1 to 6 use a nozzle based on an 1899 patent by E A White. These nozzles have a fast-fill valve (also known as a quick fill or inlet valve). The fast-fill valve is controlled by a ¼ inch brass ball. The original nozzles do not have exchangeable spray caps, and the fast-fill valve is not accessible to the user. Later versions of the nozzle have exchangeable spray caps. Later still, the fast-fill valves have a cap to allow access to the valve for cleaning. Other ABOL sprayers also have separate fast-fill valves controlled by a ball. Many of the syringes were also supplied with a rose nozzle.

The piston rod on all ABOL sprayers is made of hollow brass tubing. The pistons are either of the cotton padded type or back-to-back leather cup washers. Cotton padded pistons are made of brass and bound with cotton padding or cotton string. These are commonly referred to as ‘Cotton Reel’ pistons because without the padding they resemble a traditional cotton reel.

The syringes are fitted with a drip guard which will either be a Cooper’s patent drip protector or a Purser’s patent drip preventing sleeve. Most ABOL syringes have a brass manufacturer’s plate with the ABOL name and usually the model number and other information. The later Cadet syringes have a decal (paint transfer) and not a brass plate.

Sprayer Models 1 to 6 and similar - Nozzles

During the very early days of E A White Ltd the spray nozzles were very variable. However, in 1899 E A White patented a

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spray nozzle (GB189902878A dated 11 March 1899). The earliest version of this nozzle has PATENT engraved or embossed on just one side. A later version of the 1899 nozzle has PATENT embossed on one side and ABOL on the other.

Above :- Left is an 1899 type nozzle with PATENT engraved on just one side. Centre is a later version with PATENT embossed on just one side. Right is a version with ABOL embossed on one side and PATENT on the other.

In 1910 E A White Ltd has a patent (GB190915759A dated 2 June 1910) for a removable cap on the spray nozzle. The fast-fill valve still did not have a cap. Although applied for in 1909 the application was not granted until 1910. There are at least three versions of this nozzle as illustrated below.

Left :- Two versions of the spray nozzle as described in the 1910 patent. There is a slight difference in the casting of the two shown in this picture. In the one on the right, ABOL is more spread out and the fast-fill valve is of a slightly different shape. This is the rarer of the two.

Left :- Two further versions of the spray nozzle as described in the 1910 patent. Note that the side embossed ABOL can vary. PATENT is always embossed on the opposite side to ABOL.

The nozzle caps have three different size orifices 10G, 14G and 17G. The ‘G’ stands for gauge with 10G being the largest. They show the patent number.

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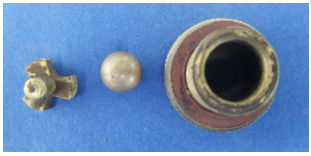
The next change comes in 1926 with patent (GB259095A dated 7 October 1926). This is for a nozzle with a cap on the fast-fill valve which can be removed. In this design of nozzle, the ball is not held in once the cap is removed. If a sprayer was supplied with this nozzle its date will be somewhere between 1925 and 1932.

In 1932 a new nozzle is introduced which has the fast-fill valve as a separate unit which can be unscrewed with the ball being retained. The patent for this is GB397658A applied for 26 July 1932. These nozzles have the words 'BRIT. PATENT 397658/32' around their base. The correct nozzle caps will have the gauge but will not have the patent number. A sprayer with this nozzle will be later than 1931.



In 1937 when Plant Protection Ltd took over Abol Ltd the spray nozzle changed to a smoother casting still with the words 'BRIT. PATENT 397658-32' around the base. These nozzles occur around the same time as other slight changes. The stuffing box, the barrel end cap, the spray caps, the rose, and the spray nozzle can have a diamond pattern as a grip rather than the vertical pattern used before.

Left :- A set of spray caps from the 1932 patent nozzle. Similar caps were used on the 1926 patent nozzle.

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Oval Plate - No Numbers

The manufacturer's plate on these syringes do not have model numbers. They date from around 1895 to 1910. The plates read either :-.

THE "ABOL" SYRINGE WITH PATENT SPRAY NOZZLE AND COOPERS PATENT PROTECTOR MANUFACTURED FOR THE PROPRIETORS OF "ABOL" INSECTICIDE

or

THE " ABOL" SYRINGE WITH PURSERS PATENT DRIP PREVENTER AND SPRAYING NOZZLE MANUFACTURED FOR THE PROPRIETORS OF "ABOL" INSECTICIDE

It seems that E A White worked closely with G & W Purser Ltd of Birmingham and possibly also with William Cooper & Nephew. Initially, the syringes supplied appear to have been taken from the standard range of G & W Purser Ltd and Cooper & Nephew but with an 'ABOL' plate. Whites Superior Insecticide was introduced in 1903 but it may have been a while before it was used on the plates.

With these early syringes, E W White was probably experimenting with nozzle design, and there are some unusual nozzles to be found. Within a few years, he seems to have settled on the design documented in the 1899 patent. It is this design (left) which is usually found on the syringes without model numbers.

Above :- [700] {5} Barrel length 18 inches and diameter 1½ inches. This is a very early Abol syringe (circa 1898). It was very probably made for E A White Ltd by G & W Purser Ltd based on an existing Purser syringe. It has a Purser drip preventing sleeve. The nozzle is a rose with a centre fast-fill valve controlled by a ball. There is a holder in the barrel for another nozzle which was probably a spray nozzle. Internally, it is fitted with a brass piston rod $^{7}/_{16}$ inch in diameter, and the piston is of the bound cotton type (cotton reel piston) ½ inch long. There is a collar on both ends of the barrel.

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Above :- [545] {5} Although similar in design to the previous sprayer, the sprayer pictured above is fitted with an ABOL nozzle (left) of the type described in the 1899 patent. It has PATENT embossed on one side and is blank on the other. There is the remains of a holder on the barrel for what was probably a rose nozzle. The barrel length of this sprayer is 14 inches and the barrel diameter 1 inch. The drip preventer is 4 inches long and connected to the air vent by a short tube. The hollow brass piston rod is $^{7}/_{16}$ inch in diameter. It has a cotton reel type piston ½ inch in length. There is a collar on both ends of barrel.

Above:- [549] {4} Barrel length 20 inches, diameter 1 inch. It is fitted with Cooper's drip protectors and a nozzle similar to the 1899 patent, but in this example the spray plug has no grip. PATENT is embossed on one side but it does not have ABOL on the other side. This may represent a time when E A White was experimenting with different ideas. The sprayer dates to about 1900. It is Fitted with a hollow brass piston rod $^{15}/_{32}$ inch in diameter and a cotton reel type piston ⅜ inch in length.

Above: - [638] {4} An ABOL syringe dating around 1901. It does not have a number, but apart from this it is very similar to ABOL No. 4 sprayers which follow a few years later. Fitted with Purser's drip preventer. Barrel length 14 inches and diameter 1 inch. The hollow brass piston rod is $^{7}/_{16}$ inch in diameter. The nozzle is of the 1899 patent type which has a spray plug with a grip. The nozzle is engraved PATENT but not ABOL. It has a cotton reel type piston ½ inch in length. Collars on both ends of the barrel.

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Above :- [624] {5} This sprayer does not have a model number on the plate. Barrel length 20 inches with a diameter of 1¼ inches. Fitted with Cooper's drip protectors. The nozzle shown in the picture did not come with the sprayer, but it is thought to be the type which would have been fitted. Rose nozzle and holder on barrel for nozzle not in use. Hollow brass piston rod ⅞ inch in diameter. Cotton reel type piston ½ in length. Collars on both ends of the barrel.

Above :- [496] {5} This sprayer does not have a model number on the plate. Barrel length 14 inches with a diameter of 1 inches. Fitted with Cooper's drip protectors. The nozzle shown in the picture did not come with the sprayer, but it is thought to be the type which would have been fitted. Rose nozzle and holder on barrel for nozzle not in use. Hollow brass piston rod ⅞ inch in diameter. Cotton reel type piston ½ in length. Collars on both ends of the barrel. Note the different colour which suggests a different brass alloy. Forerunner of the No. 1 pre 1900.

Oval Plate - Models 1 to 6 (Not mentioning White's Superior**)**

The plates on these sprayers are oval and show the model number (X). They do not mention 'White's Superior Insecticide'. They date from about 1901 to 1910. The plates reads either :-

THE "ABOL" SYRINGE NO. X WITH COOPER'S PATENT DRIP PROTECTOR MANUFACTURED FOR THE PROPRIETORS OF "ABOL" INSECTICIDE

or

THE "ABOL" SYRINGE NO. X WITH PURSER'S PATENT DRIP PREVENTER MANUFACTURED FOR THE PROPRIETORS OF "ABOL" INSECTICIDE.

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Left :- The Original nozzle which is in line with the 1899 patent. It has PATENT engraved on one side and nothing on the other.

It does not have removable caps on either the spray nozzle or the fast-fill valve.

Left :- A latter version of this nozzle. It has ABOL embossed on one side and PATENT on the other. It does not have removable caps on either the spray nozzle or the fast-fill valve.

Above :- [151] {4} Abol No.1 sprayer dating from 1901 to 1910. Barrel length 14 inches and barrel diameter 1 inch. Cooper's drip protector. Cotton reel piston ¼ inch in length. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with 1899 type nozzle which does not have caps. PATENT on one side of the nozzle only. Rose nozzle and holder on the barrel. Bend is not marked. Collars on both ends of barrel.

Above: - [215] {3} Abol No.4 sprayer dating from 1901 to 1910. Purser's drip preventer 6 inches in length. Barrel length 14 inches and diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with an 1899 type nozzle with no caps and PATENT embossed on just one side. Note that the bend is embossed 'ABOL' which would not be correct for this plate. However, it appears to have been with the sprayer for many years. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Collar on both ends of barrels.

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Above: - [667] {3} Abol No.5 sprayer dating from 1901 to 1910. Purser's drip preventer 9 inches long. Barrel length 20 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with an 1899 type nozzle with no caps and PATENT just on one side. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Bend with no markings. Rose nozzle and holder on the barrel for nozzle not in use. Collar on both ends of barrel.

Above :- [642] {3} Abol No.6 sprayer dating from 1901 to 1910. Purser's drip preventer 9 inches in length. Barrel length 20 inches and barrel diameter 1¼ inches. Cotton reel type piston ½ inch in length. Fitted with an 1899 type nozzle with no caps and PATENT on one side only. Solder remains from a holder on the barrel. This was probably a rose nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Collar on both ends of barrel. Bend is not marked.

Oval Plate - White's Superior

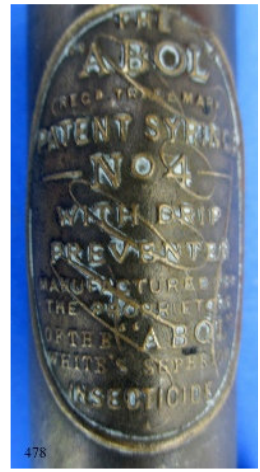
Sprayers of this type have a model number (1 to 6) and the plate specifically mentions 'White's Superior Insecticide'. They date from between 1903and 1915.

THE "ABOL" SYRING NO. X WITH PATENT SPRAY NOZZLE COOPER'S PATENT DRIP PROTECTOR MANUFACTURED FOR THE PROPRIETORS OF "ABOL", WHITE'S SUPERIOR INSECTICIDE

or

THE "ABOL" REGD. TRADEMARK PATENT SYRING - NO. X – WITH DRIP PREVENTER MANUFACTURED FOR THE PROPRIETORS OF THE "ABOL" WHITE'S SUPERIOR INSECTICIDE

ABOL



Sprayers with these plates could have been supplied with the spray nozzles illustrated below.

Left :- The early version of the 1899 patent nozzles which is not embossed ABOL. This is less likely to be found than the other nozzles shown below but is known.

Left :- The later version of the 1899 patent nozzles which is embossed ABOL and PATENT. This is known from syringes with these plates.

Left :- The 1910 patent version of the nozzle with a removable spray cap but not a removable fast-fill valve.

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It is unlikely that they would have been supplied with a nozzle with a cap on the fast-fill valve. Once Abol Ltd took over E A White Ltd the mention of 'White's Superior Insecticide' was phased out. Advertisements for White's Superior Insecticide' do not seem to continue after 1910. Sprayers with this plate all have a rose nozzle and a holder for the nozzle not in use. However, I am not aware of any sprayers with this plate which have holders for spare caps. The caps may have only been available as an optional extra. Bends were also available as an optional extra. They may or may not be embossed ABOL.

Models 1, 2 and 3 with this plate were available up to the end of 1914, so could have been sold with nozzles based either on the 1899 or 1910 patent.

Above :- [931 {4} Abol No.1 sprayer dating from around 1900 to 1910. Barrel length 14 inches and barrel diameter 1 inch. Cooper's drip preventer. Cotton reel type piston ½ inch in length without domed end. Rose nozzle and holder. The spray nozzle is of the 1899 patent type with just PATENT embossed on one side. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Collars on both ends of barrel. This appears to represent the transition to sprayers mentioning 'White's Superior Insecticide' as it has the early 1899 type nozzle.

Above :- [701] {3} Abol No.6 sprayer dating from 1905 to 1920. Purser's drip preventer 9 inches long. Barrel length 20 inches and barrel diameter 1¼ inches. Cotton reel type piston ½ inch in length. Fitted with an 1899 patent nozzle embossed ABOL and PATENT. This does not have caps on the nozzle or fast-fill valve. Missing holder and rose nozzle. Hollow brass piston rod $^{7}/_{16}$ in diameter. Collar on both ends of barrel. Removable bend.

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Above :- [607] {2} Abol No.5 sprayer dating from 1905 to 1910. Barrel length 20 inches and barrel diameter 1 inch. Purser's 9 inch drip preventer. Cotton reel type piston ½ inch in length. Fitted with 1910 patent nozzle. This has a cap on the nozzle but not on the fast-fill valve. Rose nozzle and holder. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Bend embossed ABOL. Collar on both ends of barrel.

Above :- [450] {3} Abol No.3 sprayer dating from 1905 to 1920. Cooper's drip protectors. Barrel length 20 inches and barrel diameter 1¼ inches. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle with a cap on the nozzle but not on the fast-fill valve. Missing a holder which was probably for a rose nozzle. Hollow brass piston rod $^{7}/_{16}$ inches in diameter. Both ends of the barrel have a collar. Bend embossed ABOL.

Above :- [640] {3} Abol No.6 sprayer dating from 1909 to 1920. Purser's drip preventer 9 inches long. Barrel length 20 inches and barrel diameter 1¼ inches. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle which has a cap on the spray nozzle but not on the fast-fill valve. Missing handle, holder and rose nozzle. Both ends of the barrel have a collar. Hollow brass piston rod $^{7}/_{16}$ inch in diameter.

Above :- [478] {2} Abol No.4 sprayer dating from 1909 to 1920. Purser's drip preventer 6 inches long. Barrel length 14 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Rose nozzle and holder. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar.

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Above :- [147] {2} Abol No.5 sprayer dating from 1909 to 1920. Purser's drip preventer 9 inches long. Brass barrel length 20 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Rose nozzle and holder. Hollow brass piston rod $^{15}/_{32}$ inch in diameter. Both ends of the barrel have a collar.

NRS Silver Medal - Models 4 to 6

ABOL sprayers started receiving awards in 1908 and over the next few years received many more. The manufacturer's plates referring to the National Rose Society Silver Medal were on models 4,5, and 6 sprayers dating 1912 and possibly a few years before this. Sprayers with this plate probably remained in production until the late 1920s. The plate is arranged horizontally with the sprayer number at the top. They read :-

--- No. X --- ABOL REGD PATENT SILVER MEDAL SYRINGE SPECIALLY RECOMMENDED BY THE NATIONAL ROSE SOCIETY MADE FOR THE PROPRIETORS OF "ABOL" NON-POISONOUS INSECTICIDE

Most of the sprayers with this plate will have been supplied with a 1910 patent spray nozzle. These have exchangeable nozzle caps but do not have caps on the fast-fill valve.

It is possible that they may have the 1926 patent nozzle which has a cap on the fast-fill valve, but with the ball loose once the cap is removed. With this plate, I would be suspicious of nozzles with a fast-fill valve which can be unscrewed as a complete unit with the ball retained. During this period, there are some different configurations for the sprayers. Some with multiple spray caps

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and holders and some with only one. The position of the holders for the caps and rose nozzle can also vary.

Above :- [139] {2} Abol No.4 sprayer. The box has a date of November 1921. Purser's drip preventer 6 inches long. Barrel length 14 inches and barrel diameter 1 inch. Cotton reel type piston ½ in length. Fitted with a 1910 patent nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Note that there are no holders on the drip preventing sleeve for spare nozzle caps. Both ends of the barrel have a collar.

Above :- [59] {2} Abol No.4 sprayer, Purser's drip preventer 6 inches long. Barrel length 14 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Three different size nozzle caps and a rose nozzle. There are holders on the drip preventing sleeve for the nozzle and the caps not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar.

Above :- [110] {2} Abol No.4 sprayer, Purser's drip preventer 6 inches long. Barrel length 14 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Three nozzle caps and a rose nozzle. There are holders on the drip preventing sleeve for the nozzle and the caps not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. Bend embossed ABOL.

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Above :- [56 and 636] {2} Abol No.5 sprayer, Purser's drip preventer 9 inches long. Barrel length 20 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Three nozzle caps and a rose nozzle. There are holders on the drip preventing sleeve for the nozzle and the caps not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. Bend embossed ABOL.

Above :- [237] {2} Abol No.5 sprayer, Purser's drip preventer 9 inches long. Barrel length 20 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Three nozzle caps and a rose nozzle. There are holders on the drip preventing sleeve for the nozzle and the caps not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. Bend embossed ABOL.

Above :- [365] {5} Abol No.5 sprayer, Purser's drip preventer 9 inches long. Barrel length 20 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Three nozzle caps and a rose nozzle. There are holders on the drip preventing sleeve for the nozzle and the caps not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. Bend embossed ABOL. GWR impressed into the handle.

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Above :- [641] {5} Abol No.5 with Purser's drip preventer 9 inches long. Barrel length 20 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Three caps and rose nozzle. There are holders on the drip preventing sleeve for the nozzle and caps not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. This sprayer is fitted with two asset plates for Rowntree & Co Ltd. The plates read "ROWNTREE & CO Ltd. CRM.MFG. DEPT YORK "

Above :- [647] {2} Abol No.5 sprayer, Purser's drip preventer 9 inches long. Barrel length 20 inches and barrel diameter 1 inch. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Three nozzle caps (one missing) and a rose nozzle. There are holders on the drip preventing sleeve for the nozzle and the caps not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. Bend embossed ABOL.

Above :- [391] {2} Abol No.6 sprayer, Purser's drip preventer 9 inches long. Barrel length 20 inches and barrel diameter 1¼ inches. Cotton reel type piston ½ inch in length. Fitted with a 1910 patent nozzle. Three nozzle caps and a rose nozzle. There are holders on the drip preventing sleeve for the nozzle and the caps not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. Bend embossed ABOL.

NRS Recommended - Models 4 to 6

Sometime in the late 1920s mention of the National Rose Society Silver Medal is dropped. However, mention of the special recommendation remains. The plate reads :-

ABOL

“ABOL” SYRINGE No. X SPECIALLY RECOMMENDED BY THE NATIONAL ROSE SOCIETY ALWAYS SPRAY WITH Abol FOR GREEN FLY ETC. THE BEST INSECTICIDE NON-POISONOUS

Sprayers with this plate would have been supplied with the 1926 or 1931 patent nozzles which have a cap on the fast-fill valve. The 1931 patent has the fast-fill valve as a separate unit which can be unscrewed with the ball being retained. In 1937 when Plant Protection Ltd took over Abol Ltd the spray nozzle changed to a smoother casting.

Left :- The 1931 patent nozzle. The fast-fill valve does have a cap with an internal thread. The ball is prevented from moving into the syringe by a fixed bar. Once the cap is removed the ball is free to fall out. All examples I have seen have ABOL embossed on the side as shown here. PATENT is embossed on the other side. Rare.

Left :- The 1936 patent nozzle. The fast-fill valve can be removed completely with the ball intact. They have ABOL embossed on one side and PATENT on the other as shown here.

Left :- The smoother version of the 1936 patent nozzle. This seems to have been introduced about the time of the Plant Protection takeover.

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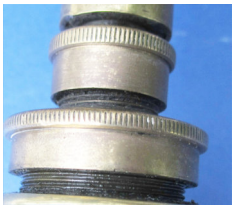
After the Plant Protection Ltd takeover. the stuffing box, the barrel end cap, the spray caps, the rose, and the spray nozzle can have a diamond pattern as a grip rather than the vertical pattern used before. There seems to be little consistency in this, so it may be that both types were being made at the same time. However, if any of these components have the diamond pattern then it does suggest a later date.



Above :- A comparison showing the change in grip pattern on the stuffing box and barrel end cap. Similar changes can be seen on the spray caps the rose and the spray nozzle.

This period also sees the move from the cotton-reel piston to the back-to-back leather cup washer type. Pistons using leather washers are less likely on any sprayer made before WW II.

I have noticed one example on a No. 5 syringe of the drip preventing sleeve being shorter than usual by about an inch. If other examples are found, then this might be worth further investigation.

Above : - [409] {4} Abol No. 5 syringe dating from 1925 to early 1932. Barrel length 20 inches with a diameter of 1 inch. Drip preventing sleeve 9 inches long. Fitted with a 1931 patent nozzle which has a cap on the fast-fill valve, but with the ball loose once this is removed. The piston is of the cotton reel type ½ inch in length. Provided with three spray nozzle caps and a rose nozzle. Holder on the drip preventing sleeve for caps and nozzles not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. Bend embossed ABOL.

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Above :- [523] {3} ABOL No. 4 syringe with its box. Dating from 1932 to 1939. Barrel length 14 inches with a diameter of 1 inch. Drip preventer 6 inches long and 1¼ inches in diameter. Fitted with a cotton reel type piston ½ inch in length. Nozzle dates from 1932. Provided with three spray nozzle caps and a rose nozzle. Holder on drip preventing sleeve for caps and nozzles not in use. Both ends of the barrel have a collar. Hollow brass piston rod $^{7}/_{16}$ inch in diameter.

Above :- [429] {2} ABOL No.5 syringe. Dating from 1932 to 1939. Barrel length 20 inches with a diameter of 1 inch. Drip preventer 9 inches long. Fitted with a back-to-back leather cup washer piston. Nozzle dates from 1932. Provided with three spray nozzle caps and a rose nozzle. Holder on drip preventing sleeve for caps and nozzles not in use. Both ends of the barrel have a collar. Hollow brass piston rod $^{7}/_{16}$ inch in diameter.

Above :- [41] {2} ABOL No. 6 syringe dating from 1932 to 1939. Barrel length 20 inches with a diameter of 1¼ inches. Drip preventer 9 inches long and 1½ inches in diameter. Fitted with a cotton reel type piston ½ inch long. Nozzle dates 1932 or later. Rose nozzle and three spray nozzle caps. Holders for nozzle and caps not in use. Hollow brass piston rod $^{7}/_{16}$ in diameter. Both ends of the barrel have a collar.

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Above :- [517] {3} ABOL No. 5 syringe with its box. The date on the box is July 1949. Barrel length 20 inches with a diameter of 1 inch. Drip preventer 9 inches long and 1¼ inches in diameter. Fitted with a back-to-back cup washer piston. Nozzle dates from 1932. Rose and 3 caps for the spray nozzle. Holder on drip preventer for nozzle and caps not in use. Bend embossed ABOL. Hollow piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar.

Above :- [800] {3} ABOL No. 5 syringe with its box. Barrel length 20 inches with a diameter of 1 inch. Drip preventer 9 inches long. Fitted with a back-to-back cup washer piston. Nozzle dates from after 1932. Rose and 3 caps for the spray nozzle. Caps are 10, 14 and 17 gauge. Holder on drip preventer for nozzle and caps not in use. Bend embossed ABOL. Hollow piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar.

Above :- [396] {2} ABOL No. 5 syringe. Barrel length 20 inches with a diameter of 1 inch. The drip preventer is only 8 inches long which is shorter than usual. Fitted with a back-to-back leather cup weather piston. Piston and other features suggest that it is post WW II. Nozzle dates from after 1932. Hollow piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar.

ABOL Minor and Similar

Patent GB407163A applied for 30 December 1932 and published 15 March 1934 (Percy Phillips for Abol Ltd) is for an atomising chamber built into a spray head with a fixed bend. This design eliminated the need for both the spray plug and a separate bend.

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One of these spray heads in my collection is engraved “PATENT APPLIED FOR” and the others are engraved “PATENT 397658”. This patent is not for this type of nozzle, and in fact does not seem to apply to this nozzle.

A spray head of this design was used on the ABOL Minor Sprayer. Additional spray caps were provided to allow either a fine, medium or coarse spray. The finer adjustment possible with models 4,5 and 6 using adjustable spray plugs was lost in this design. There is no evidence to suggest that the Abol Minor was in production after WW II.

Above :- [097] {2} Abol Minor syringe. Barrel length 16 inches and diameter 1 inch. Purser type drip preventing sleeve 6 inches long. Hollow brass piston rod ⅜ inch in diameter. Fitted with a spray head which has three interchangeable spray caps. The nozzle is engraved “PATENT APPLIED FOR”. This would suggest that the sprayer was made circa 1932. Cotton reel type piston ½ inch long. Rose nozzle and holders on the drip preventer for nozzle and caps not in use. Both ends of the barrel have a collar.

Above :- [376] {3} Abol Minor syringe with its original box. Barrel length 16 inches and diameter 1 inch. Purser type drip preventing sleeve 6 inches long. Hollow brass piston rod ⅜ inch in diameter. Fitted with a spray head which has three interchangeable spray caps. The nozzle is engraved “PATENT 398658”. Cotton reel type piston ½ inch long. Rose nozzle and holders on the drip preventer for nozzle and caps not in use. Both ends of the barrel have a collar.

Above :- [316] {2} Barrel length 20 inches and diameter 1 inch. Purser type drip preventing sleeve 5 inches long. Hollow brass piston rod ⅜ inch in diameter. Fitted with a spray head which has three interchangeable spray caps.

ABOL

The nozzle is engraved "PATENT 398658". It also has a rose nozzle. There are marks on the drip preventer for additional caps/nozzles. Both ends of the barrel have a collar. There are the remains of a red decal on the drip preventing sleeve. Hollow brass piston rod $^{7}/_{16}$ inch and diameter. back-to-back leather cup washer piston. It is possible that the nozzle and the barrel of the syringe do not belong together, but I suspect it is a Plant Protection syringe using Abol parts.

ABOL Junior and ABOL Cadet

The Abol Junior and Abol Cadet are very similar sprayers. They have a Purser's type drip preventer and a spray head with a separate fast-fill valve. Barrel length 14 inches and barrel diameter ⅞ of an inch. The Cadet may be a renamed version of the Junior. All the Abol Junior sprayers I have seen have cotton reel type pistons, which suggests that the Junior is a pre WW II sprayer. The Cadet probably replaced it when Plant Protection Ltd was formed. The Cadet was being advertised in 1938 and was produced with a cotton reel type piston but also later with a cup washer type piston. The later Cadet syringes are the only Abol sprayer with a decal (transfer) logo. It continued to be available as late as May 1961 (box date).

Above :- [550] {2} An early Abol Junior syringe with a cotton reel type piston. Barrel length 16 inches with a diameter of ⅞ inches. Purser type drip preventing sleeve 6 inches long. Spray head with a separate fast-fill valve controlled by a ball held in with a split pin. Hollow brass piston rod ⅜ inch in diameter. Cotton reel type piston, but it appears to have leather rather than cotton packing. The spray nozzle is not the same shape as the one used on later versions of this sprayer. Collar only on front of the barrel.

Above :- [37] {2} Abol Cadet syringe with a cotton reel type piston ½ inch in length. Barrel length 16 inches and diameter ⅞ inch. Purser type drip preventer 6 inches long. The nozzle on this is a slightly different shape to both the Junior and later Cadet syringes. The removable nozzle has a separate fast-fill valve controlled by a ball. Hollow brass piston rod ⅜ inch in diameter. Collar only on front of barrel.

ABOL

Above :- [125] {3} Plant Protection Ltd, Abol Cadet syringe. With box. Brass barrel 16 inches long and ⅞ inch in diameter. Purser type drip preventer 6 inches long. Removable spray head with a separate fast-fill valve controlled by a ball. Hollow brass piston rod ⅜ inch in diameter. Piston is leather back-to-back cup washers. Collar only on front of barrel.

Above :- [199] {2} Abol Cadet syringe. Brass barrel 16 inches long and ⅞ inch in diameter. Purser type drip preventer 6 inches long. Removable spray head with a separate fast-fill valve controlled by a ball. Hollow brass piston rod ⅜ inch in diameter. Piston is leather back-to-back cup washers. Collar only on front of barrel.

Above :- [507] {2} Abol Cadet syringe. Brass barrel 16 inches long and ⅞ inch in diameter. Purser type drip preventer 6 inches long. Removable spray head with a separate fast-fill valve controlled by a ball. Hollow brass piston rod ⅜ inch in diameter. Piston is leather back-to-back cup washers. Collar only on front of barrel.

Above :- [273] {2} Abol Cadet syringe. Brass barrel 16 inches long and ⅞ inch in diameter. Purser type drip preventer 6 inches long. Removable spray head with a separate fast-fill valve controlled by a ball. Hollow brass piston rod ⅜ inch in diameter. Piston is leather back-to-back cup washers. Collar only on front of barrel. The bend is embossed JUNIOR ABOL.

ABOL

Above :- [836] {2} Abol Cadet syringe. Brass barrel 16 inches long and ⅞ inch in diameter. Purser type drip preventer 6 inches long. Removable spray head with a separate fast-fill valve controlled by a ball. Hollow brass piston rod ⅜ inch in diameter. Piston is leather back-to-back cup washers. Collar only on front of barrel.

Above :- [475] {3} Plant Protection Abol Cadet syringe. Brass barrel 16 inches long and ⅞ inch in diameter. Purser type drip preventer 6 inches long. Removable spray head with a separate fast-fill valve controlled by a ball. Hollow brass piston rod ⅜ inch in diameter. Piston ½ inch long cotton reel. Collar only on front of barrel. Remains of spring on the piston rod.

SYBOL

Above :- [352] {2} SYBOL plate, The SYBOL trademark dates to 1927. It was being advertised in 1955 as a Plant Protection Ltd product and in 1960 as an ICI Garden product. In 1960 it was advertised as containing both BHC and DDT. By 1978 SYBOL 2 had been introduced as an ICI Plant Protection product. In 1987 ICI SYBOL contained Pirimiphos-Methyl. This was banned from use around 1998. This syringe was probably a Plant Protection Ltd product. Barrel length 14 inches and diameter 1 inch. Cotton reel piston on a hollow brass piston rod ⅜ inch in diameter. Spray nozzle with separate fast-fill valve controlled by a ball. Rose nozzle and holder.

Left :- The inside of the spray head with the fast-fill valve (left) and spray plug on the right.

Right :- The piston with cotton packing from a working example of this syringe.

ABOL

Backpack Sprayer

An ABOL backpack sprayer was available from as early as 1922. Described as a 3 gallon sprayer with all working parts external. It had a 4ft long hose and a two-piece lance. It appears to have been a conventional backpack sprayer with an external pump. Plant Protection Ltd were selling an Abol backpack sprayer in the 1950s. This was probably similar to the one being sold in 1922. As far as I can ascertain Abol Ltd, had no manufacturing capability, so the sprayer would have been made for them by one of the brass founders.

Above :- [706] {3} ABOL backpack sprayer without hose or handle. It has an external pump (right) diameter 1¾ inches and height 4 inches. It also has an external pressure chamber (left). Tank Capacity is 3 gallons. The piston consists of back-to-back leather cup washers. Mainly brass, but the skirt at the base is steel. Leather straps. Inlet and outlet valves are underneath. Valves are controlled by ½ inch brass balls. Dates to after 1938 and is probably post WW II.

Above :- Pump handle and the sieve which fits into the top of the sprayer (Sieve is about 4 inches in diameter).

ABOL

Above :- ABOL backpack sprayer piston.

Above :- ABOL backpack sprayer pump and handle connection.

Right :- Manufacturers plate from ABOL backpack sprayer. The fact that it says 'Registered' indicates a date after 1938, but other features suggest the sprayer is post WW II and possibly as late as 1960.

Above :- Underneath the sprayer. Showing two valves with covers. Left is the inlet valve and right the outlet valve.

Left: - Valves with covers removed showing the two ½ balls which control the valves.

ABOL

Small Pneumatic

The ABOL small pneumatic sprayer was not widely publicised and does not seem to have attracted much attention from the gardening press. The only version I have seen is dated post 1938 which is after the Abol name has been registered for sprayers. The leather cup washer piston suggests a post WW II date. The construction is very similar to pneumatic sprayers sold by Holder Harriden Ltd, and possibly they manufactured the sprayer for Plant Protection Ltd

Left :- [580] {4} The Abol Pneumatic sprayer. Capacity 2 pints. Container height 6 inches. Pump barrel ⅞ inch in diameter. The main pump valve appears to be a rubber disc. The sprayer pictured is missing its nozzle.

Below the piston and pump barrel.

ABOL

Appendix A

1906 Advertisement

ABOL

Appendix B - *Advertisement 1909*

ABOL, White's Superior, Insecticide

ABOLISHES APHIS.

EXCELLENT REMEDY FOR MILDEW.

Invaluable to Rose Growers.

NON-POISONOUS.

EFFICACIOUS.

INDISPENSABLE.

ABOLISHES all kinds of

Aphis, Green and Black Fly, Mildew, Rust, &c.

The Bazaar, Exchange and Mart says:—"It has earned for itself a deservedly high reputation alike for efficacy, its ease of application, and its economy."

The Gentlewoman says:—"An invaluable remedy for rose pests."

EXTRACT FROM RECENT TESTIMONIALS.

REIGATE, *22nd August*, 1908.

"I am pleased to say my Rose Trees have been practically free from **Mildew** and Insects since using your new Insecticide ABOL, WHITE'S SUPERIOR, and I am continually recommending it to my friends."

Signed) *RICHARD E. WEST.

***WINNER OF OVER 500 PRIZES FOR ROSES.**

PRICES:

Half-Pints, **1/-**; Pints, **1/6**; Quarts, **2/6**; Half-Gallons, **4/-**; Gallons, **7/6**; Three-Gallon Drums, **18/-**; Five-Gallon Drums, **27/6**. CARRIAGE PAID.

A Recent Opinion of ABOL, WHITE'S SUPERIOR, INSECTICIDE, and the "ABOL" SYRINGE.

MESSRS. E. A. WHITE, LTD., BELTRING, PADDOCK WOOD, KENT.

ROYAL GARDENS, KEW, *July 3rd*, 1908.

DEAR SIRS,—I have given your "**ABOL**" *Syringe* and your **ABOL, White's Superior,** Insecticide repeated trials.

The Syringe is an excellent instrument. With the finest nozzle a perfect mist is formed, which does not fall quickly but hangs in the air, and consequently settles upon upper and under surfaces alike; this has hitherto been a desideratum. The drip protector makes overhead **spraying a pleasure instead of a terror.**

The Insecticide at its weakest proportion indicated, destroys aphides (green fly), **Rose mildew,** and the **American Gooseberry mildew.** No scorching has followed the use of the strongest solution indicated when applied to very delicate foliage.—Yours truly,

Signed GEO. MASSEE, V.M.H., F.L.S., &c.,
Joint Author of "The Enemies of the Rose," issued by the National Rose Society.

May be had through all SEEDSMEN, FLORISTS and IRONMONGERS;

Or, on receipt of remittance, from the Sole Proprietors and Manufacturers,

E. A. WHITE, Ltd., Paddock Wood, KENT,

Hop and Fruit Growers.

Telegrams:
"HOPS, PADDOCK WOOD."

Nat. Telephone:
No. 1, Paddock Wood.

ABOL

Appendix C - *1909 Advertisement*

THE "ABOL" SYRINGE

WITH

PATENT SPRAY NOZZLE FOR APPLYING INSECTICIDES AND FOR GENERAL USE IN SPRAYING PLANTS.

FITTED WITH

COOPER'S PATENT DRIP PROTECTOR OR PURSER'S PATENT DRIP PREVENTER

"THE MOST PERFECT SYRINGE YET PRODUCED."

WITH PURSER'S PATENT DRIP PREVENTER

THE "ABOL" SYRINGE

"Combines Advantages not possessed by any other Syringe."

These beautifully finished Syringes will do more work, and do it better, than Syringes double the size. The most effective, and easiest to use. The spray used may be varied, fine or coarse, as required.

Prices: Syringes from 8/6 to 14/6. Postage, 4d.

BENDS to suit any "ABOL" SYRINGE, 1/6 extra.

For attaching to any "Abol" Syringe to spray easily the under sides of leaves.

NOZZLES to fit any "ABOL" SYRINGE,

For giving extra fine or coarse sprays, as desired,

3/- each.

PLUGS FOR ANY "ABOL" NOZZLE, 6D. EACH.

GLEN COTTAGE,
SHIPLEY GLEN,
SALTAIRE.

GENTLEMEN,

The "Abol" Syringe, with which I spray my plants, is **perfection itself,** it being **practically impossible to become out of order,** or in any way clogged, which is the common fault of most Syringes. I have great pleasure in recommending the above to my gardening friends and acquaintances, as the **cost is most reasonable,** and within the reach of all pockets, and their **work is most efficient.**

Yours faithfully,
E. WRIGHT, *Hon. Secretary,*
SALTAIRE, SHIPLEY AND DISTRICT ROSE SOCIETY.

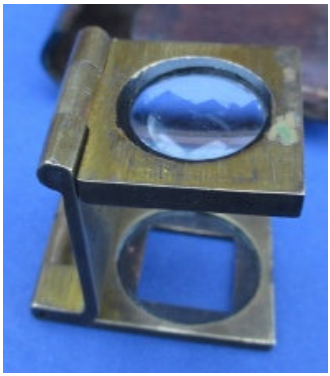
May be had through all SEEDSMEN, FLORISTS and IRONMONGERS;

Or, on receipt of remittance, direct from the Sole Proprietors and Manufacturers,

E. A. WHITE, Ltd., Paddock Wood, KENT.

ABOL

- **Appendix D -** [460] *1900 -1920 - Magnifying glass. A promotional item for E A White Ltd. earlier than 1920.*



ABOL

Appendix E - *1920 Advertisement*

258 " COMPETITION GUIDE " FOR THE IRONMONGERY & HARDWARE TRADES.

H 5807. "ABOL" INSECTICIDE.
½ pt. 1 pt. ½ pint. 1 pint. 2 pts. ½ gall.
2/- 3/3 5/- 7/10½ each.
1 5 gall.
14/3 38/5 61/4 each.

H 5800. "ABOL" FERTILIZER.
1/20 1/3 ½ size.
1/1½ 1/8 2/4 each.
7 14 28 56lbs.
4/- 6/8 10/8 18/8 each.

H 5799. "ABOL" QUASSIA CHIPS.
In 7 lb. bags. -/8 lb.

H 5796. "ABOL" LIMSUL LIME SULPHUR WASH.
½ 1 1 5 gall.
2 pints. ½
2/3 3/9 6/- 9/- 22/6 each.

H 5801. "ABOL" WORM KILLER.
About 3 lb. Tins. 1 9½ each.
7 14 28 56 112 lb. bags.
2/4 4/4 8/4 15/4 28/- each.

H 5797. "ABOL" CAUSTIC WINTER WASH POWDER. In Tins.
For Apples, Pear and Bush Fruits. For Peaches, Nectarines, Cherries, Apricots, &c.
No. 1 to make 8 gals. 12 gals. 2/- each.
No. 2 ,, ,, 12 ,, 18 ,, 3/- ,,
No. 3 ,, ,, 18 ,, 24 ,, 3/10 ,,

H 5821. "ABOLENE" TAR OIL WINTER WASH.
½ pints. ½ 1 2 5 gallons.
2/- 3/4 6/- 10/- 27/- 37/6 each.

H 5798. "ABOL" WHITE FLY COMPOUND.
½ ½ 1 2 pint
1/4 2/4 4/- 6/8 each.
1 gall.
12/- 22/8 each.

H 5798.

Other "ABOL" Products procured with utmost dispatch.

2" × 2½IN
3" × 3½IN
4" × 4½IN mesh
5" × ⅝IN
6" × 1INCH

MEDICATED GARDEN SHREDS.

H 5808. Brown or Green. For Nailing Wall Trees and Climbing Plants. Tied in Bundles of 100.
2 3 4 5 6 inches.
9/2 15/4 24/- 33/6 44/- per 1,000.

H 5809. In Boxes of Assorted Sizes and Colors.
1 to 4 1 to 6 inches.
3/- 14/- box of 500.

For Wall Nails, see page 423.

H 5802. "ABOL" SOIL PEST DESTROYER.
½ size. 7 lbs.
1/4 2/4 3/9½ each.

H 5804. "ABOL" SHADING.
White, Light or Dark Green.
In Tins.
Nos. 1 2
2/2½ 4/- each.

"ABOL" MANURES.

H 5819. Rose.

H 5819½. Sweet Pea.

H 5822. Chrysanthemum.
½ size 7 14 lbs.
1/4 3/4 6/- each.

H 5820. Hop Manure.
About 1 1 bushel bags.
4/- 9/6 each.

H 5823. Bone Meal.
7 14 28 56 112 lbs.
2/9½ 4/9½ 8/- 14/5 28/- each.

H 5823½. Basic Slag.
7 14 lbs.
1/7 2/5 each.

H 5821½. Tomato Manure.
½ size 7 14 lbs.
1/3 3/4 5/4 each.

H 5805 & H 5806.

H 5818½. "ABOL" SLUG POWDER.
1½ size. 7 lb. Tins
20/- 48/- dozen.

H 5807½. "CIRENGOL" Green Fly Killer.
In 9d. Tubes.
6/- Card of six.

H 5810. GARDENERS' MITTS.
For Hedges. Tanned Leather.
92/- dozen pairs.

H 5812. GARDENERS' GLOVES.
Turn over Cuff. Tanned Leather.
Small. Large.
60/- 70/- dozen pairs.

H 5803. "ABOL" LAWN SAND.
½- ½-size. 7 14 28 56 112lbs.
1/4 2/8 4/- 6/8 11/4 20/- 35/4 each.

H 5795. "ABOL" WEED KILLER.
Non-Arsenical.
Can be sold without a license.
1 2 pint. ½ 1 2 3 5 gallons.
2/- 3/4 5/4 9/9 18/- 27/- 37/6 each.

H 5796½. "ABOL" WOOD PRESERVATIVE.
¼ ½ 1 5 10 gallons.
5/3 9/- 24/- 35/2 60/- each.

H 5805. "ABOL" STICTITE COMPOUND,
For Banding Fruit Trees.
¼ ½ 2 4 7 lbs.
2/- 3/8 6/8 13/4 23/4 each.

H 5806. GREASEPROOF PAPER
For use with Stictite.
Width 6 12 25 50 100 200 yd. Rolls.
Inches 2/8 4/- 8/- 12/- 24/- 40/- doz.
Width 4/- 6/8 10/8 18/8 32/- 60/- ,,

For "Abol" Syringes, see page 232.
,, ,, Nomorats, ,, ,, 245.
,, ,, Disinfectant ,, ,, 245.
,, ,, Hand Cleaner ,, ,, 245.

H 5818. TOBACCO PAPER.
For Fumigating Purposes.
1/4 lb.

H 5814. GARDENERS' GLOVES.
Tanned Leather. Best.
Small Large
40/- 54/- dozen pairs.

H 5815. GARDENERS GLOVES.
Tanned Leather. Hand Sewn.
Small. Large
54/- 64/- dozen pairs.

H 5815½. GARDENERS' GLOVES.
Leather. Double Palm. Hand Sewn.
Large. 90/- dozen pairs.

H 5816. HARVEST GAUNTLETS.
Leather.
Large. 84/- dozen pairs.

ABOL

Appendix F - *1922 Advertisement*

ABOL

Appendix G - *1933 Advertisement*

STICTITE

Safeguards the Fruit against Caterpillars

Stictite traps Winter Moth, etc., and so prevents the moth being laid. Supremely effective and economical; easy application is sufficient

A ¼ lb. tin of Stictite will do 5 or more trees

¼ lb. 10½d., ½ lb. 1s. 5d., 1 lb. 2s. 9d.
3 lbs. 8s.; 4 lbs. 10s.; 7 lbs. 17s. 6d.

Best Quality Greaseproof Paper. 8 in. wide: 6 yds. 2d.; 12 yds. 3d.; 25 yds. 6d.; 50 yds. 9d.; 100 yds. 1s. 6d.; 200 yds. 2s. 6d.

STICTITE READY-PREPARED GREASEBANDS

Just cut to required length and tie on

For 6 to 8 average trees 1s. 3d. For 3 or 4 small trees 6d.

ABOLENE

TAR OIL WINTER WASH

R.H.S. Award of Merit

For use on dormant fruit trees. Destroys Insects' Eggs and cleanses the bark

Pint 1s. 6d.; Quart 2s. 6d.; ½ Gallon 4s. 6d.; Gallon 7s. 6d.

Abol Hop Manure

A real substitute for Stable Manure

Feeds the plant and gives humus to the soil. Clean and pleasant to handle. A 6s. (28 lbs.) bag will treat about 100 square yards

7 lbs. 1s. 9d.; 14 lbs. 3s. 3d.; 28 lbs. 6s.

Carriage paid to any Station, England and Wales

Write for Descriptive Folders

Sold by Nurserymen, Seedsmen, Ironmongers, Stores, etc. If any difficulty, please write to Abol Ltd., 26 Beltring, Paddock Wood, Kent

Our Readers value our Advertisements

ABOL

Appendix H - *Post 1937. Plant protection advertisement for a shop. 11 inches by 8 inches on thick card.*

ABOL

Appendix I - *1939 Advertisement - Plant protection Ltd.*

ABOL

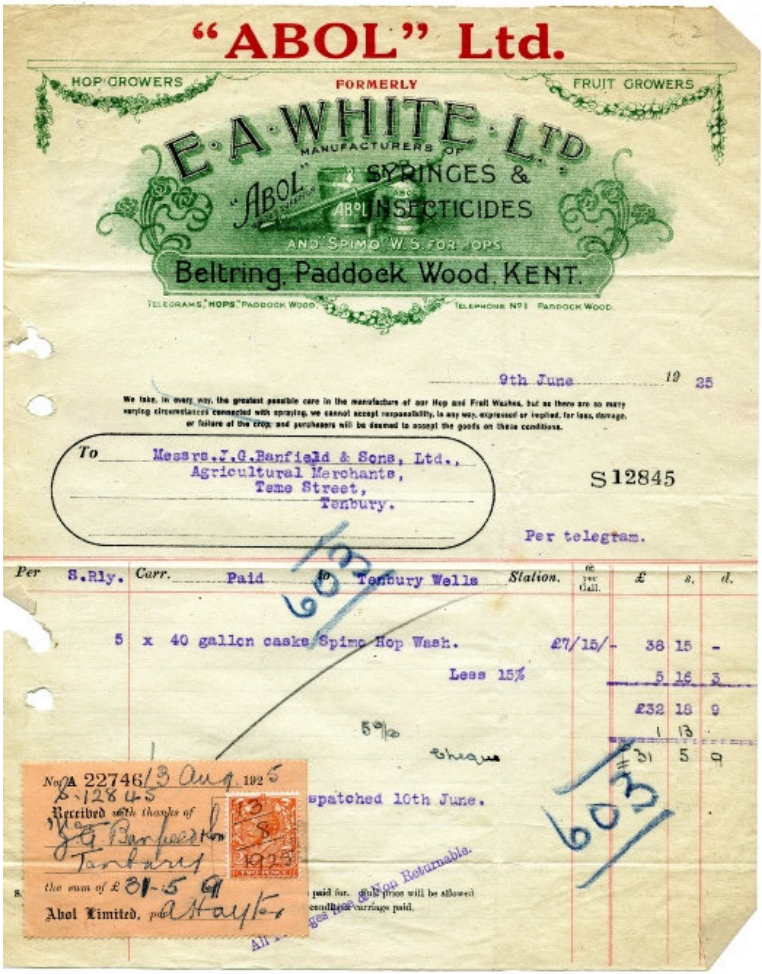
Appendix J - *1950s advert. Although advertising SYBOL the syringe in the illustration appears to be a classic ABOL syringe.*

ABOL

Appendix K - *Enamel Sign. 13 inches by 8 inches. Probably dating to 1930s.*

ABOL

Appendix L - *1925 Invoice. Note that this stationery was originally for E A White Ltd and it has been overprinted in red for ABOL Ltd.*



"ABOL" Ltd.

HOP GROWERS — FORMERLY — FRUIT GROWERS

E·A·WHITE·LTD

MANUFACTURERS OF "ABOL" SYRINGES & ABOL INSECTICIDES AND "SPIMO" W.S. FOR HOPS

Beltring, Paddock Wood, KENT.

TELEGRAMS "HOPS" PADDOCK WOOD — TELEPHONE No 1 PADDOCK WOOD

9th June 1925

We take, in every way, the greatest possible care in the manufacture of our Hop and Fruit Washes, but as there are so many varying circumstances connected with spraying, we cannot accept responsibility, in any way, expressed or implied, for loss, damage, or failure of the crop, and purchasers will be deemed to accept the goods on these conditions.

To Messrs. J.G. Banfield & Sons, Ltd.,
Agricultural Merchants,
Teme Street,
Tenbury.

S 12845

Per telegram.

Per	S.Rly.	Carr.	Paid	to	Tenbury Wells	Station.	% per Gall.	£	s.	d.
	5	x	40 gallon casks Spimo Hop Wash.				£7/15/-	38	15	-
					Less 15%			5	16	3
								£32	18	9
					5%			1	13	
					Cheque			£31	5	9

No. A 22746 / 3 Aug. 1925
S. 12845
Received with thanks of
Mess. J.G. Banfield & Son
Tenbury
the sum of £ 31-5 9
Abol Limited, per A Hayter

13 8 1925

spatched 10th June.

paid for. Only price will be allowed
condition carriage paid.

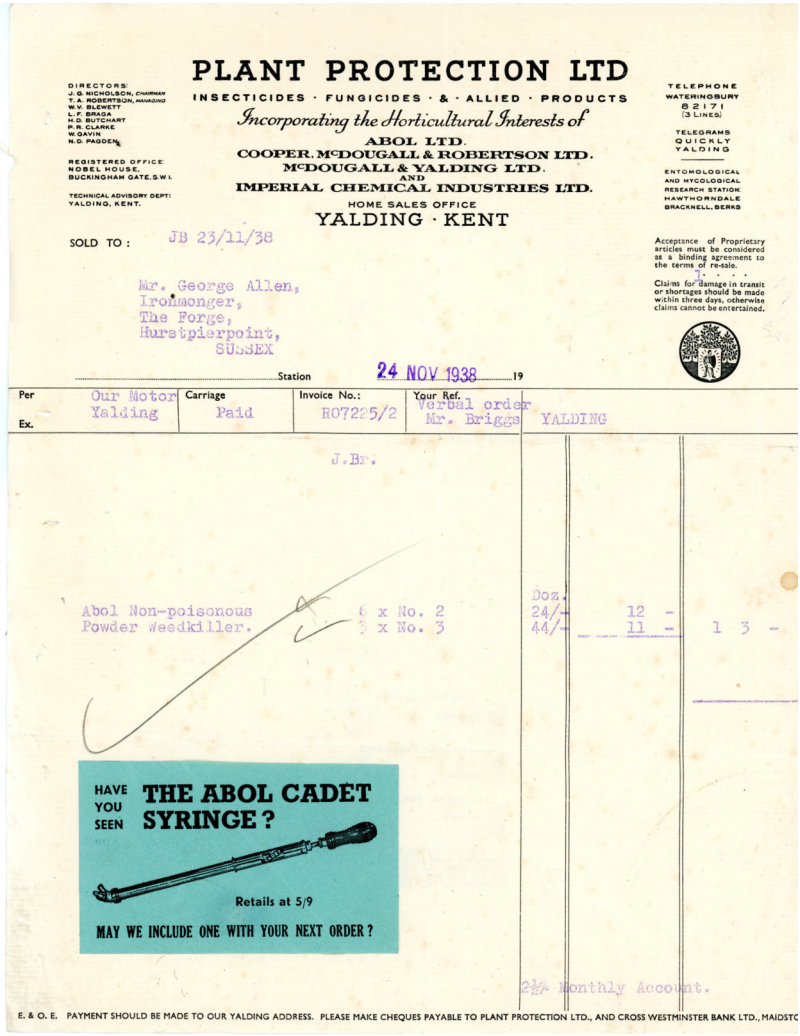
All ... ges Not Returnable.

603

603

ABOL

Appendix M - *Plant Protection Ltd Invoice.*



PLANT PROTECTION LTD

INSECTICIDES · FUNGICIDES · & · ALLIED · PRODUCTS

Incorporating the Horticultural Interests of

ABOL LTD.
COOPER, McDOUGALL & ROBERTSON LTD.
McDOUGALL & YALDING LTD.
AND
IMPERIAL CHEMICAL INDUSTRIES LTD.

HOME SALES OFFICE
YALDING · KENT

DIRECTORS:
J. G. NICHOLSON, CHAIRMAN
T. A. ROBERTSON, MANAGING
W.V. BLEWETT
L.F. BRAGA
H.D. BUTCHART
P.R. CLARKE
W. GAVIN
N.D. PAGDEN

REGISTERED OFFICE:
NOBEL HOUSE,
BUCKINGHAM GATE, S.W.1.

TECHNICAL ADVISORY DEPT:
YALDING, KENT.

TELEPHONE
WATERINGBURY
8217
(3 LINES)

TELEGRAMS
QUICKLY
YALDING

ENTOMOLOGICAL AND MYCOLOGICAL RESEARCH STATION
HAWTHORNDALE
BRACKNELL, BERKS

SOLD TO : JB 23/11/38

Mr. George Allen,
Ironmonger,
The Forge,
Hurstpierpoint,
SUSSEX

Acceptance of Proprietary articles must be considered as a binding agreement to the terms of re-sale.

Claims for damage in transit or shortages should be made within three days, otherwise claims cannot be entertained.

Station 24 NOV 1938 19

Per / Ex.	Carriage	Invoice No.:	Your Ref.	
Our Motor Yalding	Paid	RO7225/2	Verbal order Mr. Briggs	YALDING

J.Br.

Abol Non-poisonous Powder Weedkiller.	6 x No. 2	Doz. 24/-	12 -	
	3 x No. 3	44/-	11 -	1 3 -

HAVE YOU SEEN **THE ABOL CADET SYRINGE ?**

Retails at 5/9

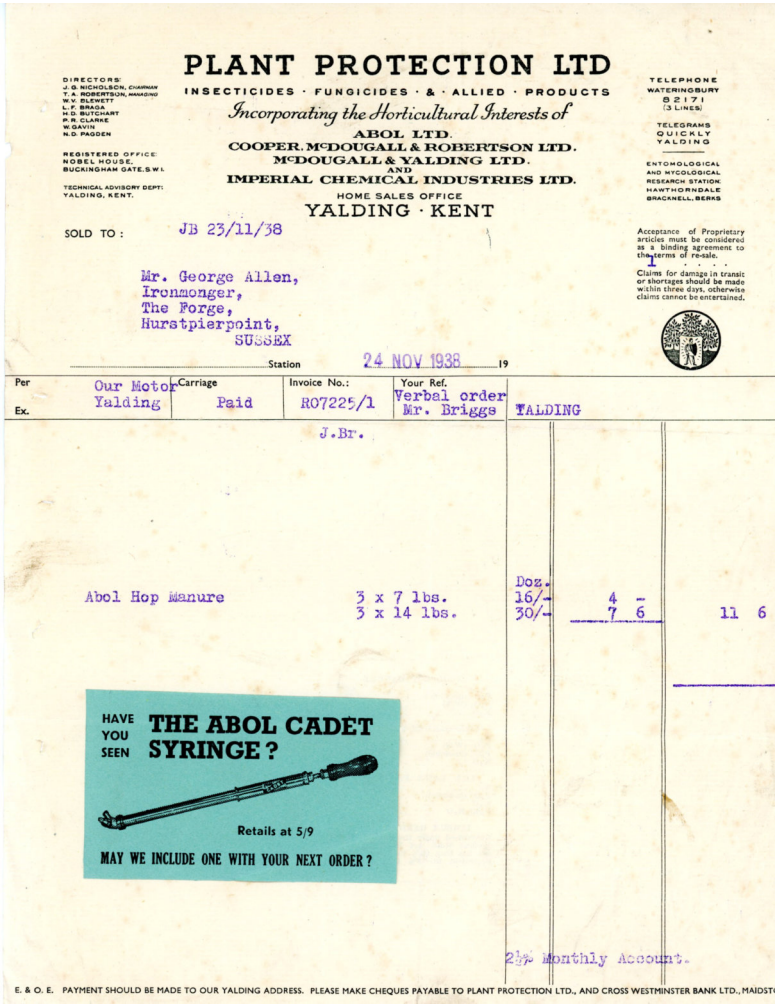
MAY WE INCLUDE ONE WITH YOUR NEXT ORDER ?

2½% Monthly Account.

E. & O. E. PAYMENT SHOULD BE MADE TO OUR YALDING ADDRESS. PLEASE MAKE CHEQUES PAYABLE TO PLANT PROTECTION LTD., AND CROSS WESTMINSTER BANK LTD., MAIDSTO

ABOL

Appendix N - *1938 Plant Protection Ltd Invoice.*



PLANT PROTECTION LTD

INSECTICIDES · FUNGICIDES · & · ALLIED · PRODUCTS

Incorporating the Horticultural Interests of

ABOL LTD.
COOPER, McDOUGALL & ROBERTSON LTD.
McDOUGALL & YALDING LTD.
AND
IMPERIAL CHEMICAL INDUSTRIES LTD.

HOME SALES OFFICE
YALDING · KENT

DIRECTORS:
J. G. NICHOLSON, CHAIRMAN
T. A. ROBERTSON, MANAGING
W. V. ELLEKETT
L. F. BRAGA
H. D. BUTCHART
P. R. CLARKE
W. GAVIN
N. D. PAGDEN

REGISTERED OFFICE:
NOBEL HOUSE,
BUCKINGHAM GATE, S.W.1.

TECHNICAL ADVISORY DEPT:
YALDING, KENT.

TELEPHONE
WATERINGBURY
82171
(3 LINES)

TELEGRAMS
QUICKLY
YALDING

ENTOMOLOGICAL AND MYCOLOGICAL RESEARCH STATION
HAWTHORNDALE
BRACKNELL, BERKS

Acceptance of Proprietary articles must be considered as a binding agreement to the terms of re-sale.

Claims for damage in transit or shortages should be made within three days, otherwise claims cannot be entertained.

SOLD TO : JB 23/11/38

Mr. George Allen,
Ironmonger,
The Forge,
Hurstpierpoint,
SUSSEX

Station 24 NOV 1938 19

Per / Ex.	Carriage	Invoice No.:	Your Ref.	
Our Motor Yalding	Paid	RO7225/1	Verbal order Mr. Briggs	YALDING

J.Br.

		Doz.		
Abol Hop Manure	3 x 7 lbs.	16/-	4 -	
	3 x 14 lbs.	30/-	7 6	11 6

HAVE YOU SEEN **THE ABOL CADET SYRINGE?**

Retails at 5/9

MAY WE INCLUDE ONE WITH YOUR NEXT ORDER?

2½% Monthly Account.

E. & O. E. PAYMENT SHOULD BE MADE TO OUR YALDING ADDRESS. PLEASE MAKE CHEQUES PAYABLE TO PLANT PROTECTION LTD., AND CROSS WESTMINSTER BANK LTD., MAIDST

ABOL

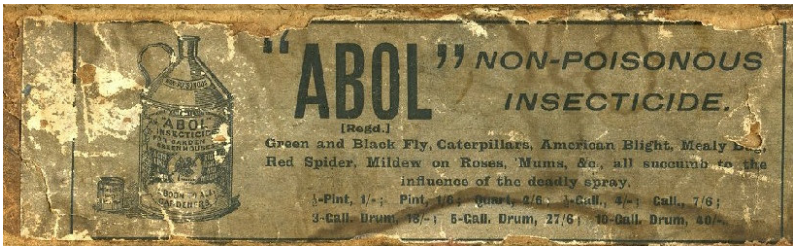
Appendix O - *Plant Protection Ltd advertising (side 1) circa 1940*

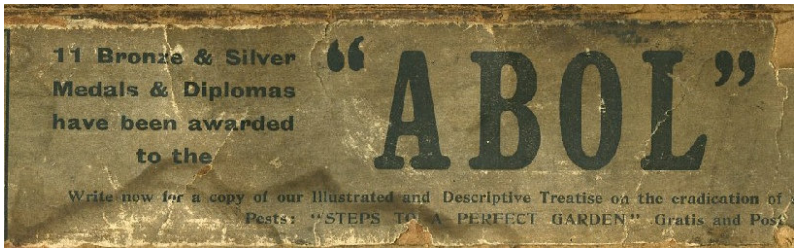
ABOL

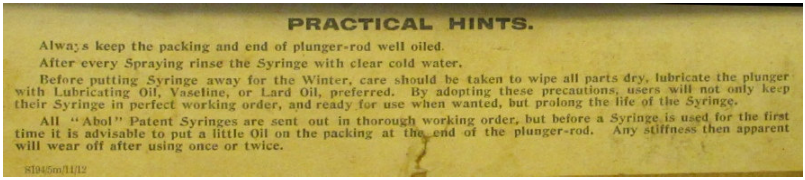
Appendix Q - *Glass bottle. Believed to be about 1937.*

ABOL

Appendix R - *Details from a box dating around 1912*







PRACTICAL HINTS.

Always keep the packing and end of plunger-rod well oiled.

After every Spraying rinse the Syringe with clear cold water.

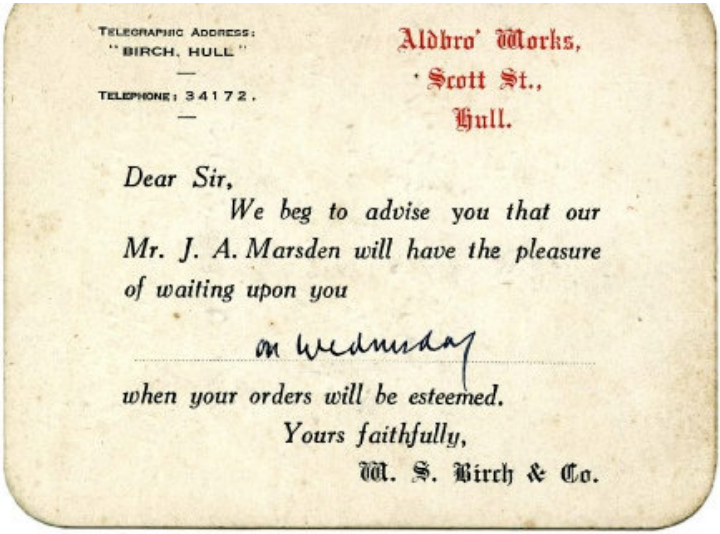
Before putting Syringe away for the Winter, care should be taken to wipe all parts dry, lubricate the plunger with Lubricating Oil, Vaseline, or Lard Oil, preferred. By adopting these precautions, users will not only keep their Syringe in perfect working order, and ready for use when wanted, but prolong the life of the Syringe.

All "Abol" Patent Syringes are sent out in thorough working order, but before a Syringe is used for the first time it is advisable to put a little Oil on the packing at the end of the plunger-rod. Any stiffness then apparent will wear off after using once or twice.

8194/5m/11/12

ABOL

Appendix S - *Mention of ABOL 1939/1940*



TELEGRAPHIC ADDRESS:
"BIRCH, HULL"

TELEPHONE: 34172.

Aldbro' Works,
Scott St.,
Hull.

Dear Sir,

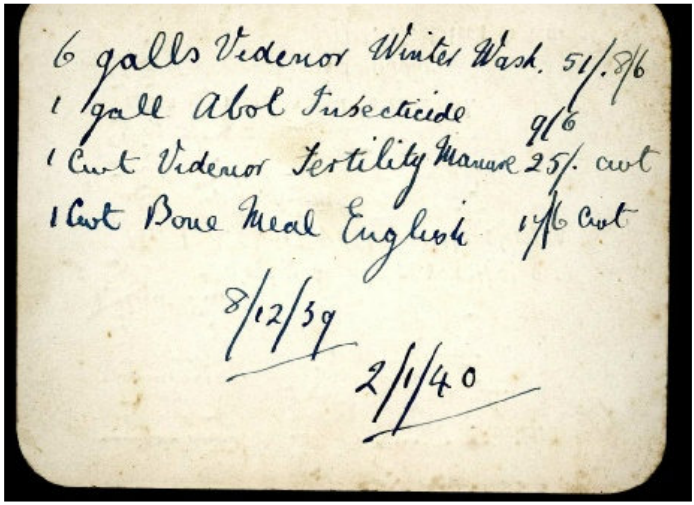
We beg to advise you that our Mr. J. A. Marsden will have the pleasure of waiting upon you

on Wednesday

when your orders will be esteemed.

Yours faithfully,

W. S. Birch & Co.



6 galls Videnor Winter Wash. 51/. 8/6
1 gall Abol Insecticide 9/6
1 Cwt Videnor Fertility Manure 25/. cwt
1 Cwt Bone Meal English 14/6 Cwt

8/12/39

2/1/40

ABOL

Appendix T1 - *My collection - Abol catalogue*

Numbers in red feature in the text. Those in black are shown in Appendix T.

No.	Type	Model	Piston	Notes
37	Syringe	Junior	CR	
41	Syringe	6	CR	
56	Syringe	5	CR	
59	Syringe	4	CR	
97	Syringe	Minor	CR	
110	Syringe	4	CR	
125	Syringe	Cadet	CW	
139	Syringe	4	CR	
142	Syringe	6	CW	
147	Syringe	5	CR	
151	Syringe	1	CR	
172	Syringe	Sybol	CW	
199	Syringe	Cadet	CW	
215	Syringe	4	CR	
218	Syringe	5	CR	
237	Syringe	5	CR	
271	Syringe	4	CR	
273	Syringe	Junior	CR	
333	Syringe	5	CR	
352	Syringe	Sybol	CR	
358	Syringe	1	CR	
365	Syringe	5	CR	GWR
366	Syringe	5	CR	
369	Syringe	4	CR	
376	Syringe	Minor	CR	
391	Syringe	6	CR	
396	Syringe	5	CR	
409	Syringe	5	CR	
425	Syringe	5	CR	

ABOL

Appendix T2 - *My collection - Abol catalogue*

No.	Type	Model	Piston	Notes
429	Syringe	5	CW	
447	Syringe	5	CR	
450	Syringe	3	CR	
460	Mag Glass			
461	Sign			
469	Sign			
475	Syringe	Cadet	CW	
478	Syringe	4	CR	
507	Syringe	Cadet	CW	
517	Syringe	5	CW	
523	Syringe	4	CR	
545	Syringe	(Early)	CR	
549	Syringe	(Early)	CR	
550	Syringe	Junior	CR	
580	Small pneumatic			
606	Syringe	4	CR	
607	Syringe	5	CR	
612	Syringe	4	CR	
624	Syringe	(Early)	CR	
636	Syringe	5	CR	
638	Syringe	(Early	CR	
640	Syringe	6	CR	
641	Syringe	5	CR	
642	Syringe	6	CR	
646	Syringe	6	CR	
647	Syringe	5	CR	
700	Syringe	(Early)	CR	
701	Syringe	5	CR	Rowntree
706	Backpack			
800	Syringe	5	CW	
836	Syringe	Cadet	CW	
931	Syringe	1	CW	

ABOL

Appendix U1 - *Sprayers not featured in text*

[6] ABOL 4. This sprayer has been extensively repaired and is not representative.

[97] ABOL Minor. As sprayer 376.

[142] ABOL 6. As sprayer 41.

[218] ABOL 5. Similar to 237. Repaired. Nozzle is suspect.

[271] ABOL 4. Similar to 59.

[333] ABOL 5. As sprayers 56 and 237.

ABOL

Appendix U2 - *Sprayers not featured in text*

[358] ABOL 1. Plate mentions 'Whit's Superior Insecticide'. Nozzle is not correct.

[366] ABOL 5. Similar to 517. Note the additional jet nozzle. This does not fit very well and is probably not a genuine accessory.

[369] ABOL 4. Similar to 59.

[425] ABOL 5. Similar to 56.

447] ABOL 5. Similar to 56.

[606] ABOL 4. As sprayer 59.

ABOL

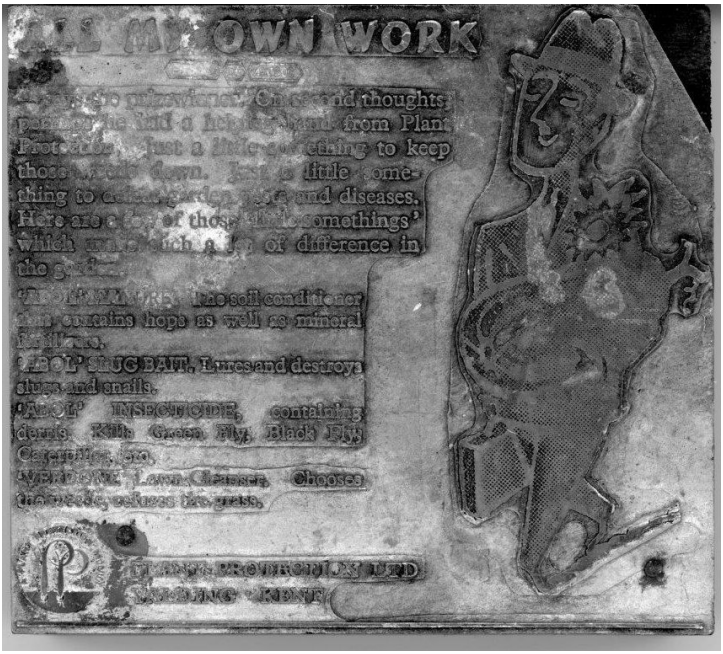
Appendix U3 - *Sprayers not featured in text*

[612] ABOL 4. Similar to 110.

[646] ABOL 6. Similar to 391.

ABOL

Appendix R - *Printing Plate*



ABOL

Appendix S1 - *Edward Albert White*

1844 - Born Court Lodge, Yalding, Kent.

1857 to 1861 - Student at Marlborough College.

1867 to 1875 - Played cricket for Kent County 29 times.

1869 - About this time he started farming at Beltring. An account of his farming life is given the book "The Encircling Hop" by Margaret Lawrence. ISBN 1-872489-03-6 published in 1990.

1873 - 5 June 1873. Married Mary Whisson (maiden name Filder).

1874 - Daughter Nellie Vera White. Born June 1874 and died 1942.

1878 - Elected a member of the Royal Agricultural Society of England. (Kent & Sussex Courier - Friday 14 June 1878).

1881 - Census (3 April 1881)shows him as a farmer living at Beltring employing 20 men and 5 boys.

1891 - Census(5 April) was at Hotel Metropole Brighton, with wife but still farming at Beltring. William Gladstone and his wife were also at the hotel.

1894 - E A White Ltd formed.

1895 - Mary White dies (24th August 1895 - Brighton). Reference - "The Morning Post, London 27 August 1895". WHITE. - On the 24th inst., at Brighton. Mary, the beloved wife of Edward Albert White, of Beltring, Paddock Wood, Kent.

1901 - Census (31 March 1901) shows him with his daughter and son-in-law in Tunbridge Wells. Shown as widower. Beltring is occupied by the Farm Manager.

1904 - Married second Wife, Jessie Saidie Whiffen. Married 8 December 1904 at Perry Hill, Catford. Jessie Saidie Whiffen was the daughter of Robert Whiffen of Catford Bridge. Reference - marriage notice in "Canterbury Journal, Kentish Times and Farmers' Gazette - Saturday 17 December 1904". The marriage was carried out by her Cousin, the Rev C Graham Swann.

1911 - Census (2 April 1911) shows that he is back in Beltring. Shown as married, and as Managing Director. His cousin is with him at the time and has signed census form on his behalf.

1919 - E A White retires from farming.

1922 - 3 May 1922. Died at 33 Prebend Mansions, Chiswick, London.

1922 - 9 June 1922. Proving of will. Assets £4,275.

1948 - 13 Feb 1948. Jessie Saidie White dies.

ABOL

Appendix S2 - *Sevenoaks Chronicle and Kentish Advertiser - Friday 12 May 1922.*

THE LATE MR. E. A. WHITE. *A well known figure in Paddock Wood and district passed away the person of Mr, Edward Albert White, late of Beltring. Mr. White retired from Beltring in 1908 and moved to Chiswick, where he died suddenly on Wednesday at the age of 78. Mr. White was known as the "King of Hop Growers" was the pioneer of hop and fruit farming on a large scale in Kent. Mr. White came to Beltring over forty years ago, and there established the world-famous hop gardens, and introduced many up-to-date methods, including the washing of hops by the underground steam-power washing plant, which used on all his gardens. He originally introduced on his farm the well-known hop wash, Spimo. and fruit wash, Abol and afterwards formed a Company, known E. A. White, Ltd., for the extensive growing of hops at Beltring and production of and Abol for commercial purposes. This business is still being continued, the farm by Whitbread and Co and the factory as Abol Ltd. Mr. White was prominent Conservative, and took a keen interest in Tariff Reform. In 1903 he was the President of the Hop Growers'. Labourers'. Pickers' and Allied Industries Defence League, which was formed to induce the Government to protect the English hop growers by imposing 40s duty on all imported hops, and as such headed the deputation to Mr. Lloyd George, who was then Chancellor of the Exchequer, after the famous demonstration of the League in Trafalgar Square in this capacity he was extremely active, and was instrumental in forming many movements in the interests of hop growers and pickers. He was well known and immensely popular among the hop-picking fraternity from London, and the elder members still refer with gratitude the treatment they received at his hands and all he did for them and others at different places. He always did what he could to improve their comforts while they were picking, and their appreciation was shown by the large number that came to his farm, year after year. He had a stage erected in the grounds and arranged concerts, entertainments and sports for them make their lives as happy possible. He was well known in the sports world, having been closely identified with the Tunbridge Wells Chess Club and the early sixties represented Kent in the cricket field.*

FUNERAL *- The funeral took place at Yalding Parish Church on Monday. The coffin was conveyed from Chiswick by road. Canon Leigh conducted the simple service and the chief mourners included Mrs. Harry White (wife of the late Mr. H.G White, High Lees cousin), Mr. Rob White (cousin), Mr. W. Langridge (son-in-law first Secretary E. A. White. Ltd.). Nurse Morgan (who has been his faithful attendant for the last eight years). Mr. and Mrs. J Waghorn, Messrs. Pellatt, Fancett, Rolfe, Grimes, H. Reynolds, Wood, Saunders and King (all employed on the farm for many years). Messrs. Woodrow, Guest and White (representing the office staff), and wives of employees and old tenants. The numerous beautiful floral tributes included those from Mr, and Mrs Howard and Miss Howard White and Mr and Mrs Langridge (Crawley). Mr H. G . White and Lizzie. Nurse Amy; Mrs Leslie Filder (Clarendon and Crawley); Mr and Mrs Leistig 34 Prebead Mansions; Lieut-Col. and Mrs I. Arundell Burrows and Mrs Mercer; employees at Beltring. Mr & Mrs Waghorn. In respectful remembrance from the Officers and Staff of late firm of E. A. White Ltd represented by W. D. Woodrow, A. M. White, J. Guest, Rita and Gladys; Mr and Mrs J. A. Bradley and Mr and Mrs Hulme and Sons (Chiswick).*

ABOL

Appendix S3 - *Edward Albert White. (This picture was provided to me by a Yalding history site which is no longer operating or contactable. I believe it to be available for non-commercial use. As such it must not be reproduced. Similar pictures are freely available for personal use on the Ancestry UK site.)*

ABOL

Appendix T - *John Herbert Waghorn*

1883 - Born 16 Feb 1883 in Paddock Wood, Kent. Father John Waghorn born 1854 to 1928. Mother Emily Relf 1855 to 1923.

1908 - Company Secretary of E A White Ltd.

1910 - Married Fanny Caroline Willgoss. Born 1884 Ramsgate died in 1981.

1919 - Carried out liquidation of E A White Ltd.

1920 - Farm Manager at Beltring Farm. Salary of £850 a year, a car allowance of £100 and free accommodation. He was also a director of Abol Ltd at £350 a year. He also purchased his own farm and became a hop grower,

1936 - Made bankrupt. This was a result of his "grandiloquent" style, and the fact that he had lost nearly £6,000 on horse racing in the last 8 years. It appears that as a result of these "personal circumstances" he resigned as a director of Abol Ltd. However, he did continue as farm manager at the Beltring Farm.

1949 - Retired as Farm Manager.

1956 - Death.

ABOL

Appendix U - *Newspaper Extracts*

Canterbury Journal, Kentish Times and Farmers' Gazette - Saturday 12 May 1894

The business hop grower and farmer now carried on by Mr. E. A. White, at Beltring, has been registered company for the purpose of carrying dairy farming, farming, hop planting, and grazing, nursery gardening, and breeding of horses, cattle, and other live stock. The subscribers are : E. A. White, Beltring, Paddock Wood, bop grower; F. A. White, The Poplars, South Godstone, brewer; L. A. White, 113, Upper Grosvenor Road, Tunbridge Wells, Lieut.-col.; W. Langrldge, Strettit House East Peckbam, neat Tonbridge, hop grower! A. S. White, Bowbill, West Farleigb, hop grower; W. G. Nicholson, 195, St. John Street, E.C., distiller; R. Monckton, 12. Bromley Road, Lee, S.G., gentleman.

ABOL

Appendix V - *Sprayer in use circa 1939. From the Garden Guide published by Plant Protection Ltd circa 1939.*

ABOL

Appendix W - *Advert for Abol Slug Killer. From the Garden Guide published by Plant Protection Ltd circa 1939.*

Slugs and snails feed greedily on Slug Bait placed in small heaps on flower bed or vegetable garden. The poison in the bait effects a speedy kill.

64

ABOL

Appendix X - *Newspaper Articles*

Kentish Express - 20 February 1926

FOOT-ROT Cured in a few days. ABOL SHEEP SHOES prevent contact of diseased feet with dirt and damp. They also prevent waste of Dresssing and spreading of disease. Made of alluminum and leather laced or strapped, Easily fixed.

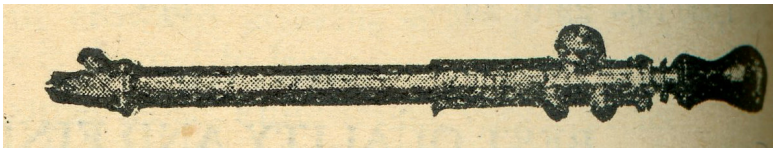
Abol Foot-rot Dressing A set and economical remedy for use with or without Abol Patent Shoe, In pots with neat tight lids. Full particulars of ABOL. Limited, 13. BELTRING, PADDOCK WOOD, KENT.

Daily Mirror 02 February 1936

Your Kitchen Garden," by Harry A. Day, F.R.H.S. (Methuen, 3s. 6.d.), is the latest book on vegetables, and is essentially practical, with much new matter. From Messrs. Abol, Ltd. (Paddock Wood, Kent), we have to acknowledge price list of the firm's numerous unique garden specialities, and also an invaluable booklet, " Gardening to Perfection," copies of which are free to Daily Mirror readers applying direct to Paddock Wood.

ABOL

Appendix Y - *Army & Navy Stores Ltd - Catalogue 1937/8*



ABOL SYRINGES.

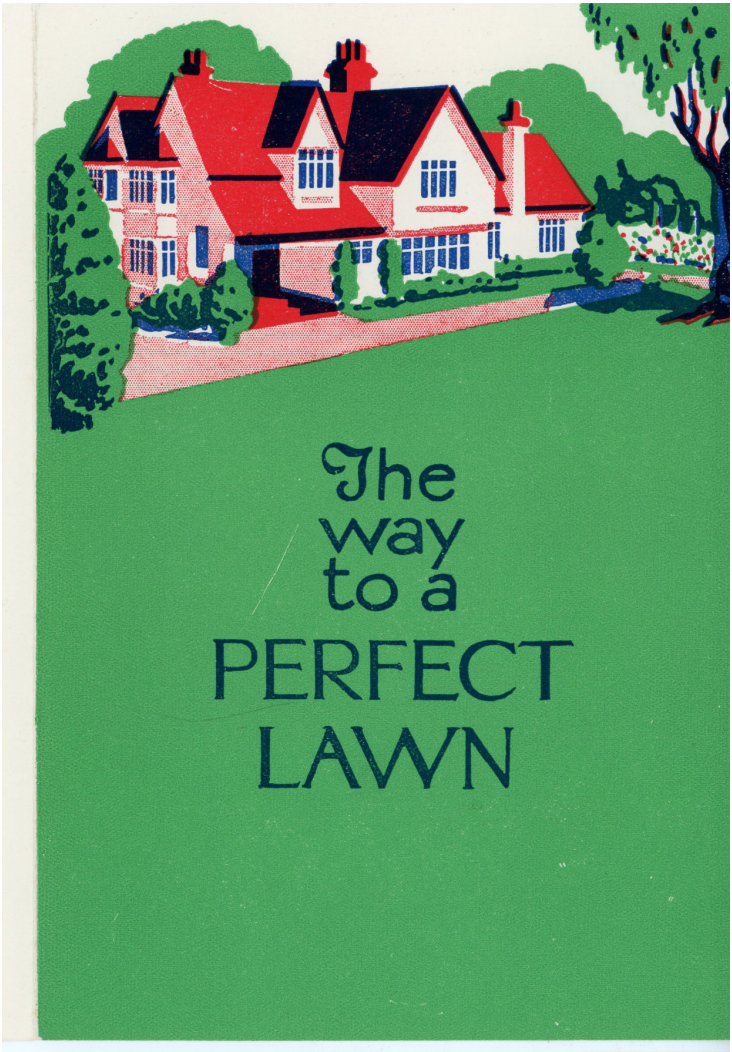
Give a perfect spray, which may be varied from fine to medium or coarse, as desired. Last a lifetime. Specially recommended by the National Rose Society.

No. 4 (14 in. by 1 in.)	each	16/6
No. 5 (20 in. by 1 in.)	„	21/-
No. 6 (20 in. by 1¼ in.)	„	26/-

All syringes supplied with bend.

ABOL

Appendix Z (1) *1937 Leaflet*



ABOL

Appendix Z (2) *1937 Leaflet*

1937

ABOL GRASS FERTILIZER

Your lawn is no less in need of plant food than your flower borders, so that when worm and weed killing operations have been completed (as described overleaf) then comes the time for the application of fertilizer. (It is advisable to allow a fortnight to elapse after applying lawn sand). The importance of using a well-balanced general fertilizer cannot be over emphasised. No fertilizer which does not contain—as Abol Grass Fertilizer does—nitrogen, phosphates and potash in their correct proportions can properly be regarded as a complete grass food, for all these ingredients are essential to the growth of a perfect lawn. Scarcely less important is the intimate and accurate mixing of the ingredients which only years of experience in the manufacture of fertilizers can provide.

It may be well to advise against the use of materials which purport to combine the properties of lawn sand and lawn fertilizer, for no fertilizer, once in the soil, can distinguish between the roots of grass and of weeds. Therefore such a product in so far as it is a lawn sand will be attacking the weeds and in so far as it is a fertilizer will be stimulating them—an obvious absurdity.

DIRECTIONS FOR USE

The first dressing of Abol Grass Fertilizer may be given about the end of March and followed by other dressings at intervals of two to three weeks throughout the spring and early summer. Distribute evenly over the grass at the rate of 4 ozs. per square yard (if several dressings are to be given they may be reduced to 2 ozs. per square yard after the first). Watering is not necessary.

Where lawns have been sown in the spring, they should certainly be fed and strengthened for resistence to their first winter by a dressing of Abol Grass Fertilizer in October.

ABOL GRASS FERTILIZER.

Tin (1½-lbs.)	...	1/-
Tin (3½-lbs.)	...	1/9
7-lbs. Bag	...	2/9
14 lbs. ,,	...	4/-
28-lbs. ,,	...	7/6
56-lbs. ,,	...	13/6
112-lbs. ,,	...	25/-

Club Secretaries are invited to apply for free testing samples of Abol Lawn Sand, Worm Killer and Grass Fertilizer with special quotations for quantities.

Write Abol Ltd., 64, Paddock Wood, Kent.

A.A.125.

ABOL

Appendix Z (3) *1937 Leaflet*

THE ERADICATION OF EARTHWORMS

PERFECT LAWNS—springy, hard wearing, clean—cannot be maintained on soil infested by earthworms. Their constant burrowing keeps the soil in a state favourable to the growth and development of coarse grasses. The casts they throw up, besides being unsightly, render the surface soft, sticky and muddy. The young grasses are smothered, with the result that bare patches develop, on which weeds spring up. The best and easiest means of eradicating earthworms is to use Abol Worm Killer.

The worms can best be killed in the Autumn from September to November, or in the Spring from March to the end of May. Choose a spell of dull, moist weather, as the earthworms will then be nearer to the surface.

Apply Abol Worm Killer at the rate of half a pound to the square yard, and **thoroughly** water in.

In the absence of watering facilities, choose a period of very wet weather, and apply the powder whilst rain is actually falling.

The more thorough the wetting, the better the results, which are almost instantaneous, the earthworms swarming to the surface at once and very quickly dying, when they may be swept up.

Abol Worm Killer enriches the turf and improves the grass. It is non-poisonous, and perfectly harmless to birds and animals. Care should however be taken if a fish pond adjoins the lawn as goldfish are harmed by Worm Killer.

N.B. Do not **roll** lawns for at least a week before applying Abol Worm Killer as this tends to close the worms' exits and makes it difficult for the Worm Killer to come into contact with them.

ABOL WORM KILLER.

"Abol Worm Killer has been found effective, quick-acting and economical."— *Walton Heath Golf Club.*

Tin (about 3-lbs.)	**1/4**
Large Canister (about 10-lbs.)	**2/6**
Also in bags:—7 lb.	**1/9**
14-lb.	**3/3**
28-lb.	**6/-**
56-lb.	**10/6**
112-lb.	**18/6**

Special price for ton lots.

ABOL

Appendix Z (4) *1937 Leaflet*

PATCHY AND IMPOVERISHED LAWNS

can be restored to a delightfully green, smooth and velvety condition by dressing them with Abol Lawn Sand at the rate of 4 ozs. to the square yard. This will not only destroy the moss, daisies and other shallow rooting weeds, but will improve the texture and colour of the grass.

It may be used at any time, but spring is the best, as at this season the weeds have not gained full vigour.

Choose a dry morning with a prospect of 24 to 48 hours settled weather. Cut the grass in order to expose the weeds, and after allowing a short while for the grass to dry, distribute Abol Lawn Sand evenly over the surface at the rate of about 4-ozs. to the square yard. The weeds will blacken and die within a few hours. The grass itself will lose colour a little, but will quickly recover, and any bare patches will disappear.

In hot, dry weather, a good watering after 48 hours is desirable to prevent any risk of permanent injury to the turf.

Abol Lawn Sand is non-poisonous, and harmless to birds and animals. It should not be allowed to come into contact with clothes or stone or marble surrounds, as there is a possibility of staining.

ABOL LAWN SAND.

Tin	(for 6 to 8 sq. yds.)	**1/-**
Tin	(for 12 to 16 sq. yds.)	**1/9**
7-lbs.	(for 28 sq. yds.) ...	**2/6**
14-lbs.	... ...	**4/-**
28-lbs	... ...	**7/-**
56-lbs.	... ...	**12/6**
1-cwt.	(does ordinary tennis court)	**21/-**

N.B. Abol Garden Lime (large canister 1/6) can be used to advantage on lawns in places affected by moss or drip from tree.

Prepare the ground by well raking over and apply 4 ozs. of Lime per square yard in the autumn and repeat the process in the Spring. Allow three or four weeks to elapse before using Abol Grass Fertilizer.

ABOL

Appendix Z (5) *1937 Leaflet*

THE ERADICATION OF EARTHWORMS

PERFECT LAWNS—springy, hard wearing, clean—cannot be maintained on soil infested by earthworms. Their constant burrowing keeps the soil in a state favourable to the growth and development of coarse grasses. The casts they throw up, besides being unsightly, render the surface soft, sticky and muddy. The young grasses are smothered, with the result that bare patches develop, on which weeds spring up. The best and easiest means of eradicating earthworms is to use Abol Worm Killer.

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In the absence of watering facilities, choose a period of very wet weather, and apply the powder whilst rain is actually falling.

The more thorough the wetting, the better the results, which are almost instantaneous, the earthworms swarming to the surface at once and very quickly dying, when they may be swept up.

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N.B. Do not **roll** lawns for at least a week before applying Abol Worm Killer as this tends to close the worms' exits and makes it difficult for the Worm Killer to come into contact with them.

ABOL WORM KILLER.

"Abol Worm Killer has been found effective, quick-acting and economical."— *Walton Heath Golf Club.*

Tin (about 3-lbs.)	1/4
Large Canister (about 10-lbs.)	2/6
Also in bags:—7 lb.	1/9
14-lb.	3/3
28-lb.	6/-
56-lb.	10/6
112-lb.	18/6

Special price for ton lots.

ABOL

Appendix Z (6) *1937 Leaflet*

PATCHY AND IMPOVERISHED LAWNS

can be restored to a delightfully green, smooth and velvety condition by dressing them with Abol Lawn Sand at the rate of 4 ozs. to the square yard. This will not only destroy the moss, daisies and other shallow rooting weeds, but will improve the texture and colour of the grass.

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ABOL LAWN SAND.

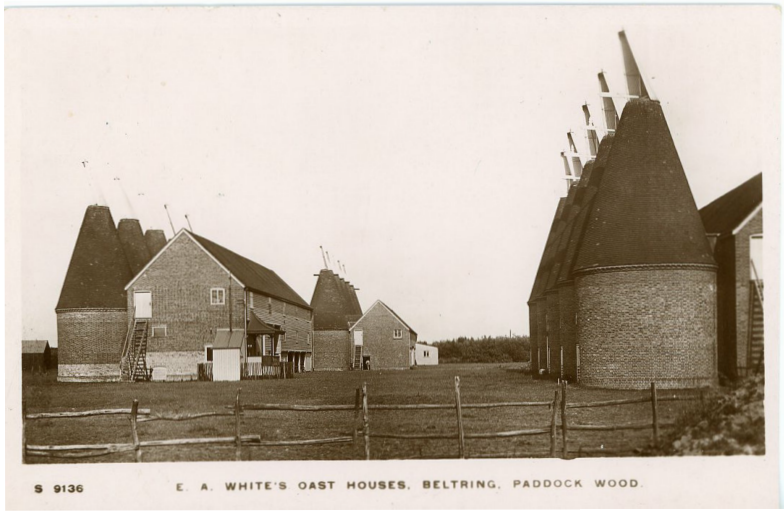
Tin	(for 6 to 8 sq. yds.)	**1/-**
Tin	(for 12 to 16 sq. yds.)	**1/9**
7-lbs.	(for 28 sq. yds.) ...	**2/6**
14-lbs.	... ...	**4/-**
28-lbs	... ...	**7/-**
56-lbs.	... ...	**12/6**
1-cwt.	(does ordinary tennis court)	**21/-**

N.B. Abol Garden Lime (large canister 1/6) can be used to advantage on lawns in places affected by moss or drip from tree.

Prepare the ground by well raking over and apply 4 ozs. of Lime per square yard in the autumn and repeat the process in the Spring. Allow three or four weeks to elapse before using Abol Grass Fertilizer.

ABOL

Appendix AA



Appendix AB - *London Gazette Notices*

In the Matter of E. A. WHITE Ltd.

NOTICE is hereby given, that at an Extraordinary General Meeting of the above named Company, duly convened, and held at 120, Dashwood House, New Broad-street, E.C., on the 26th day of November, 1919, the following Special Resolution was duly passed; and at a subsequent Extraordinary General Meeting of the said Company, also duly convened, and held at the same place, on the 12th day of December, 1919, the same Resolution was duly confirmed as a Special Resolution, viz.:—
That, having regard to the provisional agreement of the 7th day of November, 1919, entered into by Messrs. Barnett, Chadwick and Co., on behalf of this Company, for the sale of all the freehold and leasehold land and buildings and live and dead stock of the Company at Paddock Wood to Messrs. Whitbread and Co. Ltd., which agreement was ratified by the General Meeting of the Company held this 26th day of November, 1919, it is desirable to wind up this Company, and accordingly that this Company be wound up voluntarily, under the provisions of the Companies (Consolidation) Act, 1908; and that Harold Thomas Barnett, of 2, Cannon-street, E.C., a director of the Company, and John Herbert Waghorn, of Paddock Wood, Kent, the Manager of the Company, be and they are hereby appointed Liquidators for the purposes of such winding-up, and that such liquidation shall date as from the 1st January, 1920.
Dated this 17th day of December, 1919.
HAROLD T. BARNETT, Chairman.

The YALDING MANUFACTURING COMPANY Limited.
At an Extraordinary General Meeting of the Members of the said Company, duly convened, and held at the offices of Messrs. Percy Mason and Co., 64, Gresham-street, in the city of London, on the 7th day of April, 1922, the following Special Resolutions were duly passed; and at a subsequent Extraordinary General Meeting of the Members of the said Company, also duly convened, and held at the offices aforesaid, on the 24th day of April, 1922, the following Special Resolutions were duly confirmed, viz.:—
1. That the Company be wound up voluntarily.
2. That Mr. John Gray, of 64, Gresham-street, in the city of London, Incorporated Accountant, be and he is hereby appointed Liquidator for the purpose of winding-up the affairs of the Company and distributing the property thereof.

Dated the 24th day of April, 1922.
CHARLES MASON,
Chairman of the Second Meeting.

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Chapter 5

ACME (Sales) Ltd

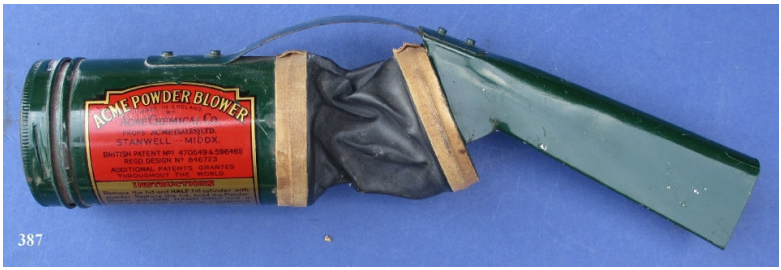
ACME (Sales Ltd)

ACME Chemical Company, Proprietor ACME (Sales) Ltd - In 1893 the ACME Chemical Company of Tunbridge Kent and Bolton Lancashire were producing the ACME Weed Killer. In 1901 they were at Carlton Road, Bolton, Lancashire. In 1940 at Vale Road, East Tonbridge Kent. Later (after 1940) at Bedfont Road, Stanwell, Middx.

This company did not produce any liquid sprayers, but I have included them because I have one of their powder blowers.

According to an early advertisement (Kent & Sussex Courier 8/3/1940) they started in 1887 and there are newspaper advertisements as far back as 1891. Principally a chemical manufacturer making a wide variety of chemicals mainly for horticultural use. In 1947 at the British Industries Fair, they are shown as manufacturers of insecticides, including white ant poison, activated DDT, quassia wood, fertilisers and weed killers. Also advertised was the "Acme" Patent Powder Blower for distributing all finely ground powders.

The powder blower was based on two patent GB470649A (G W Hawes for ACME Chemical Co Ltd - 19 August 1937) and GB596465A (A M Lee for ACME Chemical Co Ltd - 5 Jan 1945). There is also a registered design 846723. The difference between the two patents is that in the early version the linkage between the handle and cylinder is a solid link while in the later version it is in the form of a leaf spring. A sprayer based on the first patent was available in 1936 in two sizes. The No.1 size and the No. 2 size which was double the capacity. They were advertised in the Carters yearbooks for 1933 and 1936. The 1945 version seems to have only been available in the one size. Advertisements for this version of the powder blower appear in newspapers in 1947 and 1948. The last mention was in 1949.



ACME (Sales Ltd)

Appendix A - *1936 Advertisement.*

The powder blower illustrated has the solid linkage,

The Celebrated "ACME" Weed Killers

AWARDED BRONZE MEDAL ROYAL HORTICULTURAL SOCIETY

The poisonous variety can be readily obtained through your local chemist. Powder, Tin to make 25 gals., 2/6; 50 gals., 4/9; 250 gals., 21/-

"ACME" Non-Poisonous Weed Killer

Tin	*To make*	*Prices*	*Odourless*
No. 2	12 gallons	1/10	Quickly dissolves in
,, 3	25 ,,	3/3	cold water.
,, 4	50 ,,	6/-	25 gallons of solution
,, 5	100 ,,	11/-	is sufficient for 80
,, 6	200 ,,	21/-	to 100 square yards)

"ACME" Powder Blower—GIVES A FREE HAND!

Patent No. 470649

Ingeniously Emits Powder in Cloud-like Form.

No. 1 size (*illustrated*) **3/6**

No. 2 size, double capacity, **4/9**

With Powder add **9d.**

Fitted with internal tubular sifter, against which lumps in powder become broken.

Emits only fine powder. Ideal for getting at Greenfly or Mildew on underside of foliage.

"ACME" Insecticide and Fungicide Powder

Contains the most effective powder combination. Kills Greenfly; Checks Mildew.

½ lb. ... **1/3** 1 lb. ... **2/3** 2 lb. ... **4/-** 4 lb. ... **7/-**

"ACME" Derris Insecticide Powder

½ lb. ... **1/-** 1 lb. ... **1/9** 2 lb. ... **3/-** 7 lb. ... **7/6**

"ACME" Quassia-Tobacco Insecticide

Harmless to Users, Animal or Birdlife.

Quickly kills Greenfly, Blackfly, etc. This infusion penetrates into the sap or tissues of the leaves and within a week kills every living aphis.

One pint makes 10 gallons.

½ pint	1 pint	Quart	½ gallon	1 gallon
1/3	**2/-**	**3/6**	**6/-**	**11/6**

"ACME" Quassia Extract (with soap) strength 1 to 80

The only wash to touch aphis when the leaves are curled, as this infusion penetrates into the sap or tissues of the leaves. Destroys the aphis which is seriously reducing the output of Strawberries. Young Strawberry runners should be dipped in the infusion before planting and established plants sprayed.

Pint, **1/3** Quart, **2/-** ½ Gallon, **3/6** 1 Gallon, **6/6**

THE ACME CHEMICAL Co., Ltd

VALE ROAD, TONBRIDGE, KENT

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ACME (Sales Ltd)

Appendix B - *1941Advertisement.*

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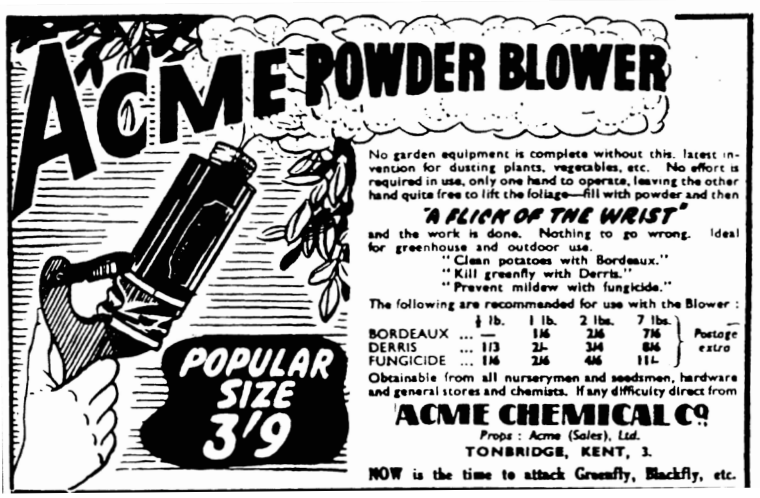

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Chapter 6

C J Adie & Nephew Ltd

C J Adie & Nephew Ltd

C J ADIE, Lion Works, Warston Lane, Birmingham
C J ADIE & NEPHEW Ltd, 156 Warston Lane, Birmingham

Trademark - 'AD'

In the 1881 census Charles Joseph Adie is shown as a brass worker employing 24 people, so the business had probably started by this time. The move to Lion Works seems to have taken place around 1890. In the 1910 census C J Adie is shown as a 'Retired Electroplater' living in Devon, so by this time he had probably handed the business over to his nephew George Evans, son of his sister Emily. In 1893 'The Engineer' journal mentions C J Adie and George Evans.

C J Adie was born in 1836 and died in 1918. The probate of his will shows his assets going to George Evans. George Evans (1863 - 1945) ran the business until 1944. It was then passed to his son Roger Charles (Adie) Evans who continued to run it until 1970. For a while the business was run by the sons of Roger Charles Evans until it ceased trading in April 1992.

The business seems to have started manufacturing silver plated trinkets, cutlery and similar items. During WW I they are documented as producing a wide range of items for the war effort. After that they made a wide range of metal goods and are known to have been making syringes in 1921 (Gardening Illustrated 1921) but they may have done so before this. The company is famous for its bicycle bells and motoring accessories. The manufacturing of sprayers may have continued until 1970.

Most of their products are engraved 'English Make'. Some of their syringes are notable for the unusual nozzles.

Syringes

Above :- Drawing of a C.J. Adie and Nephew VILLA syringe dating 1921.

C J Adie & Nephew Ltd

Above :- [599] {3} Brass syringe. Barrel length 16 inches and diameter 1 3/16 inches. The cover over the air vent is embossed "THE AD BEST MAKE" and there is also a manufacturer's plate reading "AD SPRAYING SYRINGE". It has a ½ inch cotton reel piston with a hollow brass piston rod 5/16 inches in diameter. The spray nozzle has a ball controlled fast-fill valve pointing forward with the spray nozzle at an angle. The ball is held in with a pin the end of which can be seen in the photograph above. There are marks on the barrel of a nozzle holder. This was probably for a rose. Fairly robustly constructed. It does not have a stuffing box. Both ends of the barrel have a collar. The cotton reel piston and general construction would suggest it is pre WW II.

Above :- [874] {4} Brass syringe. Similar to [599] above. Barrel length 16 inches and diameter 1 3/16 inches. The cover over the air vent is embossed "THE AD BEST MAKE" and there is also a manufacturer's plate reading "AD SPRAYING SYRINGE". It has a stuffing box and a ⅜ inch cotton reel piston supplemented by a forward facing cup washer. Hollow brass piston rod ¼ inch in diameter. The spray nozzle has a ball controlled fast-fill valve pointing forward with the spray nozzle at an angle. The ball is held in with a cross shaped component. There are signs on the barrel of a nozzle holder. This was probably for a rose. Fairly robustly constructed. It has a stuffing box. Both ends of the barrel have a collar.

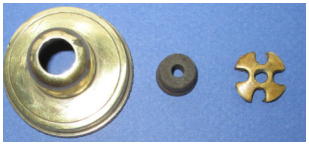
C J Adie & Nephew Ltd

Above :- [536] {3} Brass syringe. Barrel length 18 inches and diameter 1 inch. The piston has a special rubber washer which looks original. Brass piston rod $^{5}/_{16}$ inch in diameter. It has a spring on the piston rod. Fitted with a jet nozzle or incomplete spray nozzle. Rose nozzle with a holder on the barrel. There are signs of an additional holder on the barrel. Fairly robustly constructed. Engrave 'A D - ENGLISH MAKE' on barrel. There is a collar on both ends of the barrel. I think it is just pre or just post WW II.

Above :- [200] {2} Brass syringe. Barrel length 16 inches and diameter 1¼ inches. Back-to-back leather cup washer piston. Brass piston rod $^{5}/_{16}$ inch in diameter fitted with a spring. Fitted with a spray nozzle with a fast-fill valve of unusual design. The nozzle (pictured left) has a ball valve. The large screw shown in the picture allows access to the valve for cleaning. The inlet is opposite the screw. The sprayer also has a rose nozzle with a holder on the barrel. Engraved 'ENGLISH MAKE' on the barrel. Lacquered barrel. The piston would suggest it post WW II and the lacquered barrel late 1950s or after. A collar is fitted to each end of the barrel.

Above :- [81] {2} Brass syringe. Barrel length 14 inches and diameter ⅞ inch. Back-to-back leather cup washer piston. Solid brass piston rod ¼ inch in diameter fitted with a spring. There are three branches to the nozzle. The lower branch in the picture shown left is blocked off and serves as a holder for the nozzle not in use. The top branch is the fast-fill valve controlled by a ball. Pointing forward is the rose nozzle. By moving the nozzles and fast-fill valves it is possible to get four combinations - jet nozzle pointing forward or up and rose nozzle pointing forward or up. This syringe is not constructed very well. The barrel end cap screws directly into a thread on the inside of the barrel which makes a weak point. 'ENGLISH MAKE' is engraved on barrel. Collar only on the front end of the barrel. The piston would suggest it post WW II and the poor quality of the construction 1960s or possibly 1970s.

C J Adie & Nephew Ltd



Above :- [877] {4} Brass syringe. Barrel length 18 inches and diameter $1^{3}/_{16}$ inches. The cover over the air vent is embossed "THE AD BEST MAKE" and there is also a manufacturer's plate reading "AD SPRAYING SYRINGE". It has a stuffing box and a ½ inch cotton reel piston, supplemented with a forward facing leather cup washer. It has a hollow brass piston rod $^{5}/_{16}$ inch in diameter. A collar is fitted to each end of the barrel. Rose nozzle with a central fast fill valve controlled by a ball, spray nozzle with an integrated fast fill valve, jet nozzle with an integrated fast fill valve. Bend.

Above :- [987] {4} Brass syringe. Barrel length 12 inches with a diameter of ½ inch. Barrel engraved AD ENGLISH MAKE. Fixed rose nozzle. Solid ¼ inch brass piston rod with ½ inch cotton reel piston. No collar. The piston type may suggest and earlier date than the outward appearance suggests.

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C J Adie & Nephew Ltd

Left :- [256] {3} Double action stirrup pump with brass barrel and steel stirrup. Barrel length 18 inches and diameter 1¼ inches. Barrel with AD plate. Hollow brass piston rod diameter ¾ inch. Fitted with a piston valve consisting of a ½ brass ball and a cotton reel piston. Foot valve also uses a ½ brass ball. Hose and nozzles missing. However, there are holders for spare nozzles which suggests that it was designed as a sprayer.

Details of how this sprayer works can be found in Volume 1 of this series under Common Pump Sprayers - Inlet at Front of barrel. Outlet Above Piston.

The piston type and the general design suggest that it dates to the 1930s, but production may have continued during and post WW II.

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C J Adie & Nephew Ltd

Below :- Advertisement from a 1930 catalogue.

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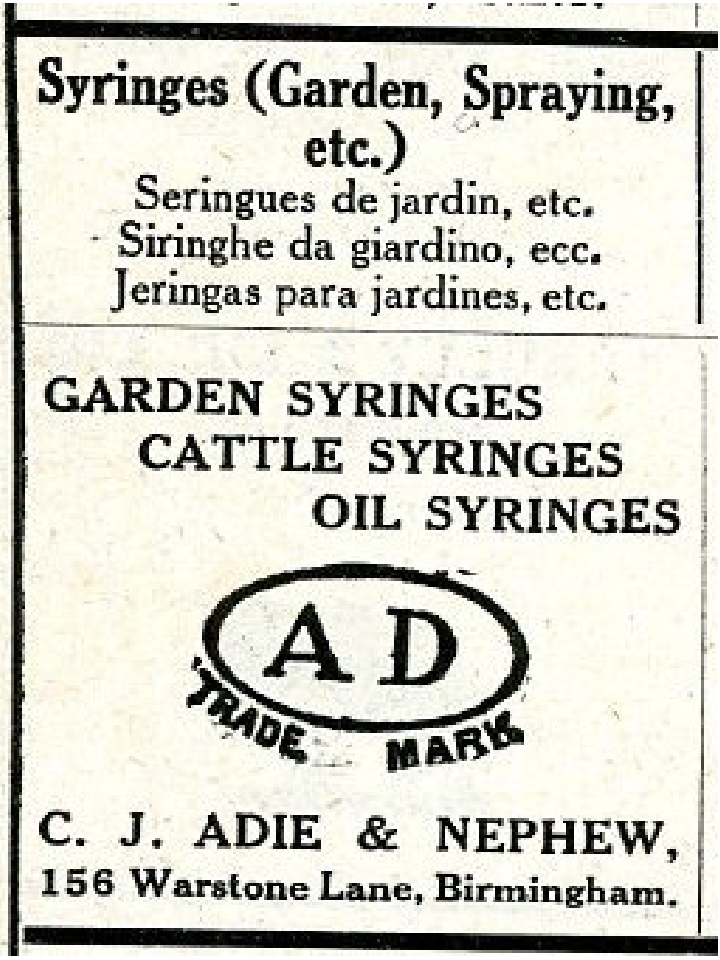

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Chapter 7

Allen & Freeman

and

Carpenter & Allen

Allen & Freeman

Allen & Freeman - 37 Baker Street, Smalheath, Birmingham. (1906). Then Carpenter & Allen Ltd Everest Works, 73 to 77 Lombard Street, Birmingham 12.

Range names include ACORN, AF, ANDEFF, EVEREST, FREEMAN, LOMBARD, RANGER, YARDLEY.

History

Thomas Carpenter (1847 to 1893) founded his business in 1866 to manufacture gas cocks and fittings. His son Thomas Richard Carpenter (1867-1924) followed his father into the business. His son (grandson of the founder) also Thomas Richard Carpenter (1887-1970) became involved in 1902 when he was sixteen, and quickly discovered that the firm was struggling. He is recorded as works manager in 1911, and as works manager and secretary in 1921. Around 1930 he found himself talking to a fellow member of his golf club, named Joseph Allen whose firm was called Allen & Freeman. They discovered that both their businesses were seasonal, the gas fittings being slack in summer and the spraying business of Allen & Freeman being slack in the winter. They decided to amalgamate as Carpenter & Allen. Information from Companies House indicates that Thomas R Carpenter entered into an agreement with Joseph Henry Allen of 75 Lombard Street, Birmingham on 24th March 1930, the new company being named Carpenter and Allen.

Before setting up on their own Joseph Henry Allen (1868-1951) had been employed as a traveller for G & W Purser, and William Henry Freeman (1863-1948) held the position of works foreman within the firm. The first reference to Allen & Freeman was found in the 1906 Kelly's Directory for Birmingham and gave their address as 37 Baker Street, Small Heath, Birmingham. The 1924 Chamber of Commerce section of Kelly's directory records their representative as being J H Allen. The partnership was dissolved on 18 September 1926. However, J H Allen and the company were still listed in the 1928 and 1930 Chamber of Commerce listing, and the company mentioned in the Garden Syringe Manufacturers section of the 1934 Kelly's directory.

Later in 1930 a further agreement was made whereby J H Allen sold the business to T R Carpenter, the agreement being dated 6 August 1930. It appears that Joseph Allen did not leave the

business as he is mentioned in various papers until his retirement in May 1936. An advertisement in the Ironmongers Buyers Guide of 1937, page 254, showed them as being at the Everest Works, Lombard Street, Birmingham. The advertisement has a subtitle as Carpenter and Allen Ltd.

The trading style of Allen and Freeman remained until 28 July 1948 when it officially changed to Carpenter and Allen. Around 1950 Warne, Wright & Rowland took over the business in order to secure the services of Thomas R Carpenter to run their recently acquired W T French & G & W Purser businesses.

The Lombard Street premises was up for sale in 1957. For further information see W T French & Son which covers the sprayer business of Warne, Wright & Rowland Ltd, including the sale of their sprayers business which became Associated Sprayers Ltd, and later part of Hozelock.

Carpenter & Allen subsequently became part of Benjamin Priest Group of Companies, though by 1974 was a non-trading company. The Benjamin Priest Group was wound up in March 1986 and Carpenter and Allen ceased to exist on 16 June 1987.

Above :- Thomas R Carpenter. President of National Brassfoundry Association 1948 and Hon. Treasurer 1949 and 1950. Born 1887 and died in 1970.

Allen & Freeman

Sprayers

Sprayers without any specific name and just marked AF probably pre-date those with names. The EVEREST syringe sprayers were probably produced from the 1920s to the mid 1950s. They are mentioned in 1930, 1937, 1947 and 1953 advertisements. The LOMARD self-supplying sprayers are mentioned in the same advertisements. The YARDLEY sprayers have a robust spray nozzle with an integrated fast-fill valve. The nozzle design plus the fact that they are not mentioned in any advertisements suggests they may date from 1920 to 1930. The ANDEFF models are mentioned in the 1930 advertisement. They also have an integrated fast-fill valve but of a more compact design, so they may have replaced the YARDLEY. Adverts after 1937 do not include the ANDEFF so it might not have been manufactured after WW II. The JUBILEE is known only from one sprayer example.

Syringes

Above :- [547] {3} Brass syringe sprayer. Barrel length 18 inches and diameter 1½ inches. The piston rod is a hollow brass tube ½ inch in diameter. The piston is of the cotton reel type ½ inch in length. It is provided with a jet nozzle which has a separate fast-fill valve and two rose nozzles with different sprays. Both of these have a central fast-fill valve. It has a stuffing box. A collar is fitted to each end of the barrel. The manufacturer's metal plate reads "BEST QUALITY TRADE AF MARK". This is probably a 1930s sprayer.

Allen & Freeman

Above :- [014] {2} EVEREST brass syringe sprayer. The plate reads "THE EVEREST SPRAY SYRINGE HIGHEST GRADE AF TRADEMARK". Barrel length 14 inches and diameter 1 inch. The drip preventing sleeve is 6 inches long. The piston rod is a hollow brass tube $^{7}/_{16}$ inch in diameter. The piston is of the cotton reel type ½ inch in length. It is provided with a spray nozzle which has a separate fast-fill valve. The additional cap is missing and there was probably another holder and cap which are also missing. A collar is fitted to each end of the barrel. It has a stuffing box. The nozzle is of a slightly different design to the one found on most EVEREST syringes and this might indicate an earlier date.

Above :- [362] {2} EVEREST brass syringe sprayer. The plate reads "THE EVEREST SPRAY SYRINGE HIGHEST GRADE AF TRADEMARK". Barrel length 14 inches and diameter 1 inch. The drip preventing sleeve is 6 inches long.

Complete with a spray nozzle which has a separate fast-fill valve, a rose nozzle, a jet nozzle and an alternative spray cap. There are holders on the drip preventer for nozzles not in use. A collar is fitted to each end of the barrel. It has a stuffing box and a hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with a ½ inch long cotton reel piston. Unmarked bend. The spray nozzle is marked EVEREST and is of the type commonly found which suggests it is post WW II.

Above :- [354] {2} EVEREST brass syringe sprayer. No plate, but EVEREST is embossed on the nozzle. Barrel length 14 inches and diameter 1 inch. The drip preventing sleeve is 6 inches long. Complete with a spray nozzle which has a separate fast-fill valve, a rose nozzle and a jet nozzle. All with holders on the drip preventer. Both ends of the barrel are fitted with a collar. It has a stuffing box and a hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with a ½ inch long cotton reel piston. Unmarked bend. This sprayer has been extensively cleaned and in the process has lost the plate and the marks of the holder for a spare cap. Probably post WW II. There is a slight difference in the spray caps between this sprayer and the previous one.

Allen & Freeman

Above :- [454] {2} Larger EVEREST syringe sprayer. Gold lacquered barrel. Barrel length 20 inches and diameter 1 inch. The drip preventing sleeve is 9 inches long. The manufacturer's plate reads "THE 'EVEREST' SPRAY SYRINGE HIGHEST GRADE AF TRADEMARK". Hollow brass piston rod $^{7}/_{16}$ inch in diameter. The piston is of the cotton reel type ½ in length. A collar is fitted to each end of the barrel. It is provided with a spray nozzle which has a separate fast-fill valve. Also a rose and a jet nozzle plus an additional spray cap. All with holders. It has a stuffing box. Unmarked bend.

Above :- [088] {3} ACORN/EVEREST syringe sprayer made for Lewis and Sons Cardiff. William Lewis & Sons were hay, corn, seeds and implements merchants with two premises in Cardiff. They seem to have been operating at the end of the 19th Century into the early 20th Century. Their telegraphic address was 'Acorn' hence the name on the syringe. Barrel length 20 inches and diameter 1 inch. The drip preventing sleeve is 9 inches long. The manufacturer's plate reads "LEWIS & SONS ACORN SPRAYER CARDIFF". Hollow brass piston rod $^{7}/_{16}$ inch in diameter. The piston is of the cotton reel type ½ in length. Both ends of the barrel are fitted with a collar. It is provided with a spray nozzle which has a separate fast-fill valve. Also, a rose and a jet nozzle plus an additional spray cap. All with holders. It has a stuffing box and an unmarked bend.

Above :- [548] {2} A YARDLEY syringe. Barrel length 20 inches and diameter 1 inch. Drip preventing sleeve 9 inches long. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with a ½ inch cotton reel piston. Spray nozzle with an integrated fast-fill valve. Rose nozzle and holder for the nozzle not in use. Stuffing box. A collar is fitted to each end of the barrel. Unmarked bend.

Left :- Inside view of the YARDLEY spray nozzle. There is a cone held in by a bar. The cone incorporates the spray plug. When filling the syringe, the cone is pulled back by the vacuum created by the piston. This allows liquid to enter around the cone. On the push stroke the cone moves forward blocking the flow so that the liquid is forced through the spray plug.

Allen & Freeman

Above :- [835] {2} A YARDLEY syringe. Plates reads "YARDLEY AF SPRAYING SYRINGE". Brass barrel length 14 inches and diameter 1 inch. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with a ½ inch cotton reel piston. Spray nozzle with an integrated fast-fill valve. Rose nozzle and holder for the nozzle not in use. Stuffing box. Unmarked bend. Both ends of the barrel are fitted with a collar.

Left :- The nozzle. Right is the central component which incorporates the spray plug. The fixed bar which holds this in place is missing from this example.

Above :- [582] {2} A YARDLEY syringe sprayer. Barrel length 14 inches and diameter 1 inch. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel piston ½ inch in length. Rose nozzle. The spray nozzle and holder are missing. The handle is not original. Both ends of the barrel are fitted with a collar. This syringe is in poor condition. I have included it, because the plate does not have the AF logo. The condition of the syringe and the plate could mean that it is an early YARDLEY syringe.

Above :- [540] {2} A YARDLEY syringe. Plate reads "YARDLEY AF SPRAYING SYRINGE". Barrel length 20 inches and diameter 1 inch. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with a ½ inch cotton reel piston. Spray nozzle with an integrated fast-fill valve. Rose nozzle and holder for the nozzle not in use. Stuffing box. Both ends of the barrel are fitted with a collar.

Above :- [197] {2} A YARDLEY syringe. Plates reads "YARDLEY AF SPRAYING SYRINGE". Barrel length 14 inches and diameter 1 inch. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with a ½ inch cotton reel piston. Spray nozzle with an integrated fast-fill valve. Rose nozzle and holder for the nozzle not in use. Stuffing box. Both ends of the barrel are fitted with a collar. Unmarked bend. Purser type drip preventer 6 inches long.

Allen & Freeman

Above :- [752] {2} A YARDLEY syringe. Barrel length 14 inches and diameter 1 inch. Purser type drip protector 6 inches long. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with a cotton reel piston ½ inch in length. Spray nozzle with a separate fast-fill valve. Rose nozzle and holder for the nozzle not in use. Stuffing box. Both ends of the barrel are fitted with a collar. Lacquered finish. Probably post WW II in date.

Above :- [420] {2} An ANDEFF syringe. Barrel length 16 inches and diameter ⅞ inch. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Fitted with a ½ inch cotton reel piston. Fixed spray nozzle with a fixed bend. No collar on barrel end. A relatively poor quality syringe with no stuffing box.

Left :- Components of the ANDEFF nozzle. The centre component has a small hole through the centre which forms the spray. It is held in with the screw (right) but is free to move slightly. On the pull stroke it moves back to allow liquid to flow around it into the syringe. On the push stroke it moves forward so that the liquid is forced through the centre forming a spray.

Above :- [833] {4} JUBILEE syringe. Barrel length 16 inches and diameter ⅞ inch. Brass piston rod ¼ inch in diameter. Fitted with a cotton reel piston which appears to have a leather ring as packing. Fixed spray nozzle with a fixed bend. No collars.

Left :- The nozzle with the spray component removed. This holds in the ball of the fast-fill valve.

Right :- Showing the remains of the ball.

Left :- The piston.

Allen & Freeman

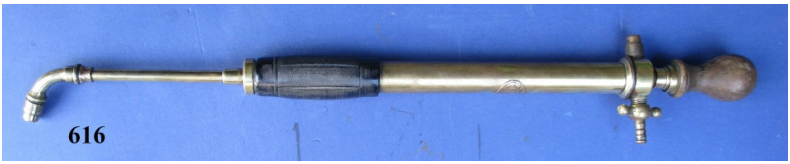
Above :- [952] {4} EVEREST brass syringe sprayer. Only the nozzle is marked. Barrel length 20 inches and diameter 1 inch. The drip preventing sleeve is 6 inches long. Complete with a spray nozzle which has a separate fast-fill valve, a jet nozzle, and an alternative spray cap. Missing another nozzle which was probably a rose. There are holders on the drip preventer for nozzles not in use. Both ends of the barrel are fitted with a collar. It has a stuffing box and a hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with a ½ inch long cotton reel piston. Unmarked bend. This appears to be similar to [454] but with a shorter drip preventer and no plate.

Above :- [966] {5} EVERYMAN brass syringe sprayer. Plate reads AF EVERYMAN SPRAY SYRINGE. Barrel length 20 inches and diameter 1 inch. Complete with a spray nozzle which has a separate fast-fill valve. Both ends of the barrel are fitted with a collar. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Fitted with a back-to-back leather cup washer piston. Unmarked bend. Fast fill valve controlled by a ball.

Allen & Freeman

Self-Supplying Sprayer - The Lombard

There are two types of LOMBARD sprayer. Both are self-supplying sprayers. The one with the hose connection at the rear is a single action sprayer and the one with the hose connection near the front is the double action version. The double action version has a complicated structure with an internal barrel.



Above :- [616] {3} The LOMBARD single action self-supplying sprayer. Barrel length 12 inches and diameter 1 inch. Piston is back-to-back leather cup washers and the piston valve is controlled by a ¼ inch brass ball held in by a split pin. There is a front valve which appears to be a ¼ ball. Hose and strainer are missing. There was probably a valve in the strainer. Two spray nozzles. Solid brass piston rod $^{5}/_{16}$ inch in diameter.

Above :- [560] {4} The LOMBARD double action self-supplying sprayer. Plate reads "THE LOMBARD SPRAYER DOUBLE ACTION AF CONTINUOUS STREAM BEST QUALITY". Barrel length 12 inches and diameter 1 inch. The hose is plastic. There is a valve in the strainer which would improve its performance but is not strictly necessary for its operation. Hollow brass piston rod ½ in diameter. The operation of this sprayer is described in detail in Volume 3 of this series. Front lance 5 inches in length.

Above :- [623] {4} The LOMBARD double action self-supplying sprayer. Plate reads "THE LOMBARD SPRAYER DOUBLE ACTION AF CONTINUOUS STREAM BEST QUALITY". Barrel length 12 inches and diameter 1 inch. The hose is plastic. There is a valve in the strainer which would improve its performance but is not strictly necessary for its operation. Hollow brass piston rod ½ in diameter. The operation of this sprayer is described in detail in Volume 3 of this series. Front lance 5 inches in length.

Newspaper Extracts

Birmingham Daily Post - 28 September 1957

By direction of Messrs. Carpenter & Allen. Ltd. "EVEREST WORKS." 73/77 LOMBARD STREET. Lot 2 —THF EXCELLENT CENTRALLY SITUATED AND COMMODIOUS MANUFACTURING PREMISES providing an approximate FLOOR SPACE OF 7.500 FEET SUPER, and occupying a conveniently-accessible central position a few yards from Moseley Steet. The premises include a Front Three-story building comprising: Offices and Storage Accommodation with gateway entrance at the side and at the rear and intercommunicating a two-story Factory Building yards of comparatively modern construction with reinforced flooring, and adjoining this building are spacious covered stock yards and toilet facilities. Leasehold for a term of 75 from 25th December 192. Ground Rent £32 10s. per annum.

Allen & Freeman

Advertisement - Benn's Encyclopaedia of Hardware 1930

Allen & Freeman

Advertisement -1937.

Allen & Freeman

Advertisement - 1947

Allen & Freeman

Advertisement - 1953 (Copyright Grace's Guide to British Industrial History)

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Chapter 8

Apex Inflators Co Ltd

later

Apex Sprayers Ltd

Apex Inflator Co Ltd

Apex Inflator Co Ltd - Aldridge Road, Perry Bar, Birmingham. Then **Apex Sprayers Ltd**, Browning Street, Birmingham.

Models APEX 1 and APEX 2

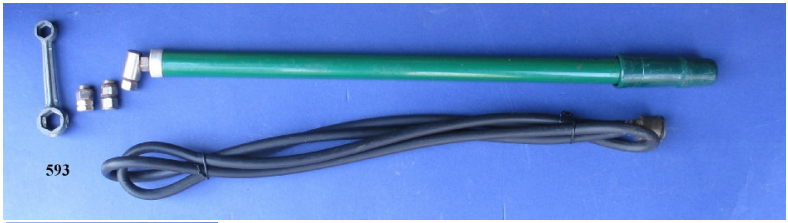
The Apex Inflator Co Ltd was as manufacturer famous for its cycle pumps and other cycle parts and accessories. In 1916 Apex Inflator Co Ltd was formed to take over the business of A W Bailey, A J Bailey and A Smith at 204 Soho Road, Handsworth, Birmingham. The business manufactured cycling accessories and other items in celluloid (*Birmingham Daily Post 28 October 1916).* In 1945 they contributed to making the PLAT (Projectile Infantry Anti-Tank) known as the 'Tank Buster' (*Birmingham Daily Post 8th May 1945*). In the1950s they started manufacturing celluloid sprayers based on their cycle pump. In November 1961 the company was building a new factory on a one acre site in Pelsall Road, Brownhills. This was going to become their head office and was expected to be open around June 1962. The move was being made because of the difficulty in obtained labour in Perry Bar. At the time they had 150 employees most of whom were women working part time. (*Walsall Observer 17th Nov 1961*). During 1961 the plant goodwill and patents of the spraying part of the business were sold to Warne, Wright and Rowland Ltd adding plastic syringes to their brass syringe range (*Birmingham Post 9th May 1962)*. The spraying business, named Apex Sprayers Ltd, appears to have been managed by W T French & Son Ltd (*See document under W T French & Son Ltd*). Apex Sprayers Ltd is not mentioned in the formation of Associated Sprayers Ltd in 1963 so it may have been dissolved and merged with W T French and Son Ltd before this. In 1962 as planned the bicycle accessory business moved to Thapex Works, Apex Road, Brownhills, Walsall (*Bimingham Daily Post 4th June 1962*). Andrew William Bailey died on 20 Nov 1979 aged 92 (*Birmingham Post 23rd Nov 1979 and Ancestry Co*).

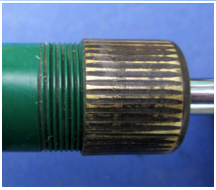
Only the two models were ever available, but they did change slightly over time. The Apex No.1 was a syringe sprayer with a spray nozzle incorporating a fast-fill valve. The Apex No.2 was a self supplying sprayers with a feed through a hose attached to the hollow piston rod. They were made in a number of different colour including brown, red, green, yellow and blue.

Apex Inflator Co Ltd

Above :- [339a] {2} Apex Inflator Co Ltd self supplying sprayer No. 2 in red. Piston is back-to-back leather cup washers. There is a spring on the piston rod. Strainer has a simple plastic disc as a valve. Front valve is in the nozzle and is a simple plastic disc valve. Sprayer [339] is identical.

Left :- Apex strainer. Centre is the plastic disc which forms a simple valve.

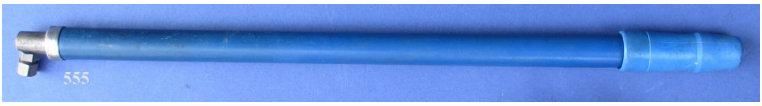




Above :- [593] {3} Apex Inflators Ltd self supplying sprayer No. 2 in green. Engraved APEX SPRAYER NO 10. Piston seal is two flat rubber washers. There is a spring on the piston rod. Strainer has a simple plastic disc as a valve. Front valve is in the nozzle and is a simple plastic disc valve. This sprayer has a metal barrel end cap which screws onto an external thread on the barrel. It has an accessory kit which includes two additional nozzle and a spanner to change them. Date is early 1960s.

Apex Inflator Co Ltd

Above :- [086] {2} Apex Sprayers Ltd No.1 syringe sprayer with box. Barrel length 14 inches. Spray nozzle with integrated fast-fill valve (left). Valve is of a very simple type. Piston uses a single flat rubber washer. There is a buffer spring on piston rod.



Above :- [555 and 554] {2} Blue and green versions of the Apex No. 1 syringe. The piston on the blue syringe is a forward facing rubber cup washers. The piston on the green one appears to have a flat leather washer.

Apex Inflator Co Ltd

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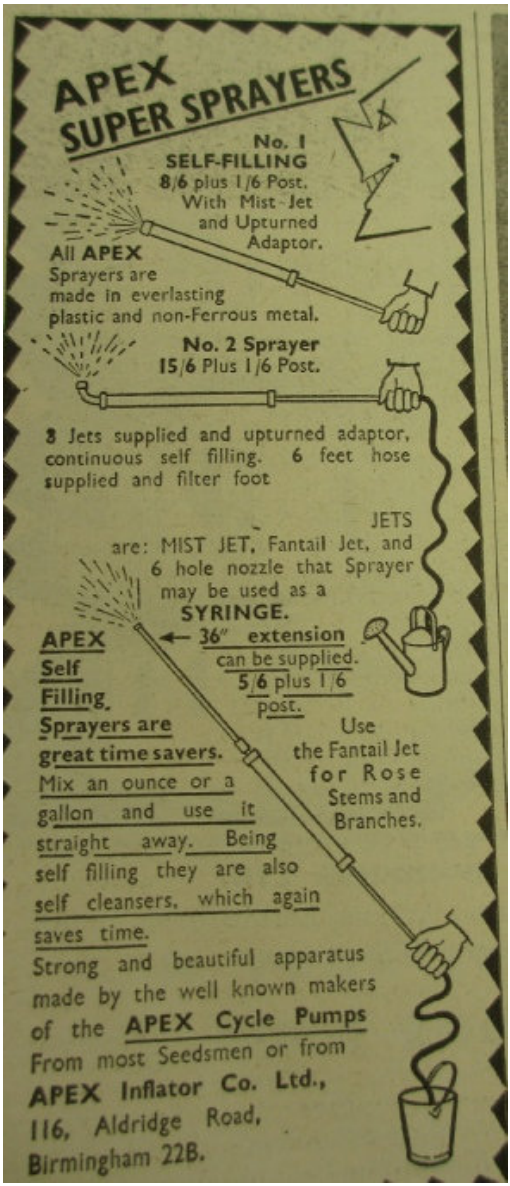
1959 Advertisement



Apex Inflator Co Ltd

1959 Advertisement

APEX

SUPER SPRAYERS

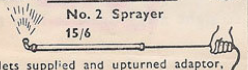
No. 1

APEX SUPER SPRAYERS

No. 1
SELF-FILLING
7/6
With Mist Jet and Upturned Adaptor 18" long.

All APEX Sprayers are made in everlasting plastic and non-corrodible metal.

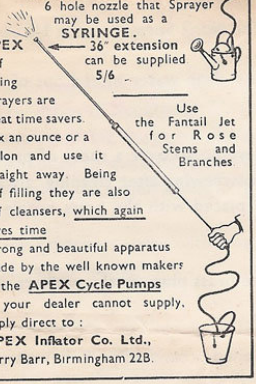
No. 2 Sprayer
15/6



3 Jets supplied and upturned adaptor, continuous self filling 6 feet hose supplied and filter foot which can be unscrewed to permit use of sprayer with small amounts of Solution. JETS are. MIST JET, Fantail Jet, and 6 hole nozzle that Sprayer may be used as a **SYRINGE.**

APEX Self Filling Sprayers are great time savers. Mix an ounce or a gallon and use it straight away. Being self filling they are also self cleansers, which again saves time

36" extension can be supplied **5/6**



Use the Fantail Jet for Rose Stems and Branches

Strong and beautiful apparatus made by the well known makers of the **APEX Cycle Pumps**

If your dealer cannot supply, apply direct to :

APEX Inflator Co. Ltd.,
Perry Barr, Birmingham 22B.

These neat pieces of apparatus are designed to last many years. They will last a life-time if given good treatment. They are made from non-corrodable materials. Apexicon non-flam Celluloid, commonly called plastic, will stand up to 140°F. or 20° of frost and no harm will result. The metals used are aluminium, brass or stainless steel. The powerful and expensive machinery and plant at the back of the production of Apex Sprayers is exactly the same as is used in the making of the famous Apex Cycle and Motor Cycle Tyre Pumps. Nowhere in all the world is there such a varied and scientifically up-to-date plant set under one roof, and it is this remarkable collection of machines that go to the making of Apex Sprayers.

MADE BY

APEX INFLATOR CO. LTD.

ALDRIDGE ROAD, PERRY BARR, BIRMINGHAM, 22B.

Telephone: BIRchfield 4526

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Chapter 9

Benton & Stone Ltd

Benton & Stone Ltd

Benton & Stone Ltd - 4/5 St Paul's Square, Birmingham then Bracebridge Street, Birmingham.

ENOTS brand. Models HYJECT, EVER READY, FLORASPRAY, CANAPSACK.

In 1964 Benton & Stone celebrated their 150th year which would indicate that the company had its origins in 1814. In 1863 the company is mentioned in the Sheffield Daily Telegraph at 4 St Paul's Square manufacturing a number of items including 'Garden or Enema syringes'. In 1864 they are listed in 'The Corporation directory of Birmingham' still at St Paul's Square and they were engaged in the manufacture of India Rubber Tyres together with that of garden engines, syringes and mandrel tubes.

The 1883 Kelly's directory indicates that they had by now expanded and occupied 5 St Paul's Square as well as that of No 4. By 1892 the Kelly's Directory shows that they were listed as tube manufacturers. The 1900 edition advising that as well as copper and brass they also made tubes of German silver and iron. The manufacture of tubes of other metals was eventually discontinued, that of German Silver around 1906/7 and iron circa 1910/1911.

By 1899 (from a patent) the premises at St Paul's Square had been outgrown and new factories were established in Bracebridge Street and also in the adjoining Aston Brook Street. The premises in Bracebridge Street were used for the foundry side while the tubes were manufactured in Aston Brook Street. The 1930 Kelly's Directory gives some indication at the range of products manufactured; motor car and aircraft accessories manufacturers, garden syringe manufacturers, lime washing spraying machine manufacturers. Sprayers of this time appear to have been marketed under the name of 'Stones Adjustable'. However, one or two also carried the name Enots (Stone backwards) which became a trade name of Benton & Stone. Enots fittings were also well known in the hydraulic fittings business.

In July 1935 Benton & stone entered a trial organized by the Royal Horticultural Society and held at the Wisley site of the RHS. As a result of the trial Benton and Stone were awarded a Highly Commended in respect of their Hyject Standard Model Foot Pump. Between 1940 and 1944 a new plant for the manufacture of brass

tubes, was opened at units 23C & 23D Birmingham Factory Centre, Kings Norton. After the war Benton and Stone needed to diversify and moved into the production of lubrication systems, pneumatic cylinders and control valves.

On the basis of the above it seems they were manufacturing sprayers as early as 1864. The condition of some of the sprayers in my collection and the fact that Benton & Stone sprayers are not particularly rare suggests they were still available, or at least still in use, post WW II. There are no advertisements in the Iron Mongers Guide or Benn's Encyclopaedia of Hardware after 1939. A 1951 advertisement does show a vaporiser but it does not show any garden sprayers or the HYJECT.

Sprayer Related Patents

Herbert Stone and William John Powell (GB189519484A dated 25 July 1896) for a nozzle where the nozzle pipe can be pushed back into the nozzle when not in use. There is a Benton & Stone nozzle which is engraved Powell's Patent 2837-02 which implies a 1902 patent. I have not been able to trace this.

Herbert Stone and Henry Gardiner Atkinson (GB189600245A dated 14 November 1896) for a plunger made of an elastic ball with a felt cover which is compressed to fit inside the syringe barrel, and which can be adjusted by means of a screw. This patent seems to have been implemented in a number of ways with the piston consisting of either rubber, leather washers or rubberised string.

Herbert Stone and Samuel William Hughes (GB189815667A dated 5 November 1898). For syringe sprayers with barrels made of wood pulp or papier mâché, suitably waterproofed.

Herbert Stone with Walter White (GB189906460A dated 28 October 1899) is for a combination nozzle which changes from a jet by to a spray by turning the barrel. Walter White was the works manager at the Bracebridge Street works.

Herbert Stone with Walter White (GB189915802A dated 2 June 1900) is for a pressure atomiser.

Benton and Stone and John Reuben Taylor (GB191219942A dated 10 April 1913) is for an agitating plate inside a backpack sprayer.

Benton & Stone Ltd have a patent (GB136698A dated 24 December 1919) for a plunger designed to take up any possible wear. This is not the Stones Adjustable plunger.

Benton & Stone and Charles Alfred Outwin Saxelby (GB179740A dated 18 May 1922) for a pneumatic sprayer with a glass internal bottle protected by a brass outer casing.

Benton & Stone Ltd

Sprayers

Their syringe sprayers are mainly very large and robust (diameter up to 1¾ inches). Most do not have a spray nozzle. I would think these were intended for professional use in commercial greenhouses and large gardens. However, the larger syringes were also advertised for window washing and they could have been used for a number of cleaning tasks. Benton & Stone syringes mainly use the Cooper's patented drip preventer (Patent 2643 dated 17th June 1881), but the Purser's drip preventing sleeve is sometimes used.

Most surviving sprayers appear to date to the 1920s and 1930s. Sprayers with 'Stone's Adjustable Plunger; are assumed to be Benton & Stone Ltd sprayers.

The Gardeners and Poultry Keepers Guide 1910 has an illustration of a Benton & Stone CANAPSACK backpack sprayers which does not appear to have an agitator. There is a 1920s advertisement for a backpack sprayer which looks like it does have the agitator as specified in the 1913 patent.

The EVER READY was a small pneumatic sprayers. I don't know if they ever manufactured the patented encased glass bottle sprayer covered by the patent. In 1927 they were making a perfume bottle. This was available both with a glass container and with a silver plated container. The FLORASPRAY was a hand force pump sprayer available in 1938.

Vaporisers feature in their 1951 advertisement, they may have also made these for one of the disinfectant manufacturers,

The HYJECT foot pump sprayer was introduced in 1935. The latest advertisement I can find for the HYJECT is 1938 and it does not appear in the 1951 advertisement. However, it may have been available post WW II. It is a vertical pump with an operating cylinder of approximately 12 inches worked by a foot pedal. In use it is capable of delivering a continuous flow of water up to about 20-30 feet.

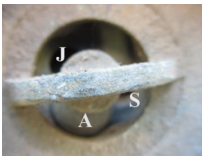
Benton & Stone Ltd

There is an illustration in a Harrods Ltd Catalogue dating 1915 to 1920 of a Enots Limewash Sprayer. There is no mention of an air chamber, so this appears to be a simple double action bucket sprayer. There is also an illustration of an Enots backpack sprayer and what appears to be an Enots pneumatic sprayer.

Above :- {4} Benton and Stone 150 year commemoration mug 1814 to1964. Approximately 6 inches tall. Gresley Ware.

Benton & Stone Ltd

Above :- [837] also [895] {4} Brass syringe sprayer. Barrel length 18 inches and diameter 1½ inches. Hollow brass piston rod ½ inch in diameter fitted with a Stone's Adjustable plunger and Cooper's drip protectors. Fitted with an automatic nozzle which changes from jet through coarse to a fine spray as the sprayer is rotated. This is an implementation of patent GB189906460 applied for 24 August 1899 and accepted 28 October 1899. The plate from this syringe. reads "WHITE'S PATENT GARDEN SYRINGE THE TRIPLEX WITH COOPERS'S PATENT PROTECTORS AND STONE'S PATENT ADJUSTABLE PLUNGER". Walter White was the works manager at the Bracebridge Street works. William Whiteley (see Retailers) has this sprayer in their 1913 catalogue.



*Left :- The valve. This is controlled by disc **A**. This moves as the syringe is turned to cover jet outlet **J** or spray outlet **S**. At the intermediate position both **J** and **S** outlets are in operation giving the coarse spray.*

Above :- [867] {4} Brass syringe sprayer. Barrel length 16 inches and diameter 1¼ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter fitted with a Stone's Adjustable plunger and Cooper's drip protectors. The plunger is of the rubber bung type. The plate reads "COOPER PATENT PROTECTOR GARDEN SYRINGE FITTED WITH STONE'S ADJUSTABLE PLUNGER". Rose nozzle with a fast-fill valve. Jet nozzle with a fast fill valve. Stuffing box.

Left :- The rose and jet nozzles with a fast-fill valves controlled with a washer-shaped component which moves to allow liquid to move in through a series of holes while the syringe is filling.

Right :- The Stone's Adjustable plunger with the rubber packing. Versions with other types of compressible packing are known.

Benton & Stone Ltd

Above :- [117] {3} Brass syringe sprayer. Barrel length 18 inches and diameter 1½ inches. Hollow brass piston rod fitted with the leather washer version of Stone's Adjustable plunger. Fitted with jet and rose nozzles both with a separate fast-fill valve.

Above :- Components of leather washer version of Stone's Adjustable plunger. It is made up of several leather washers held on with a screw which enabled the washers to be compressed so that they make a good seal.

Left :- the complete leather version of the piston. Often the packing is missing and it is impossible to identify which packing was originally used.

Left :- In this version of the adjustable plunger the piston is made of rubberised string. This gives the appearance of a solid rubber piston.

Left :- The manufacturer's plate from this sprayer.

Right :- The additional plate on this syringe. Probably referring to Great Western Railway. The sprayer may have been used for cleaning rather than for gardening.

Benton & Stone Ltd

Above :- [156] {3} Brass syringe sprayer. Barrel length 18 inches and diameter 1½ inches. Hollow brass piston rod ½ inch in diameter. Fitted with the rubber version of Stone's Adjustable plunger. Cooper's drip protector. Fitted with jet and rose nozzles both fitted with a separate fast-fill valve. Note the small pipe from the air vent into the drip protector.

Above :- [180] {3} Brass syringe sprayer, Barrel length 18 inches and diameter 1½ inches. Hollow brass piston rod ½ inch in diameter. Fitted with Stone's Adjustable plunger of leather type. Cooper's drip protector. Fitted with jet and rose nozzles both fitted with a separate fast-fill valve. The handle is hollow. Has two plates. One mentions the drip preventer and the other the adjustable plunger.

Benton & Stone Ltd

Above :- [185] {3} Brass syringe sprayer. Barrel length 20 inches and diameter 1½ inches. Hollow brass piston rod ½ inch in diameter. Fitted with leather washer type Stone's Adjustable plunger. Cooper's drip protector. Fitted with jet and two rose nozzles (coarse and fine). The plate does not mention Benton & Stone, but the syringe is assumed to be theirs because it has an adjustable plunger.

Above :- [381] {3} Brass syringe sprayer. Barrel length 18 inches and diameter 1½ inches. Hollow brass piston rod ½ inch in diameter. Fitted with Stone's Adjustable plunger of the type which uses the rubberised string. Cooper's drip protector. Fitted with jet and two rose nozzles, all fitted with a separate fast-fill valve. It has a small pipe from the air vent into the drip protector.

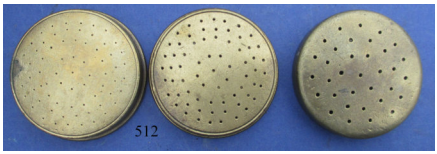
Right :- The piston. Packed with rubberised string.

Above :- [954] {4} Brass syringe sprayer. Barrel length 18 inches and diameter 1½ inches. Hollow brass piston rod ½ inch in diameter. Fitted with Stone's Adjustable plunger. The original material used for this is unknown. Fitted with jet and two rose nozzles, none with fast-fill valves. The air vent has stud like fitting which would direct liquid from behind the piston outwards rather than downwards.

Below :- [954] The air vent, the manufacturer's plate and the adjustable plunger. The plunger's original packing has been replaced with string.

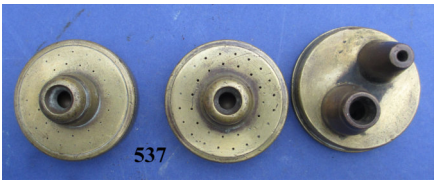
Benton & Stone Ltd

Above :- [702] {4} Brass syringe sprayer. Barrel length 20 inches and diameter 1¼ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with a cotton reel type piston. The plate refers to "POWELL'S PATENT SPRAYING SYRINGE". Nozzles are spray nozzles with an integrated fast-fill valve. They are engraved "POWELL'S PATENT 2837-02". William John Powell of has a number of patents. However, I have not been able to find any details for this one.



Above :- [512] {3} Brass syringe sprayer. Barrel length 18 inches and diameter 1⅝ inches. Hollow brass piston rod ½ inch in diameter. Fitted with Stone's Adjustable plunger. Cooper's drip protector. Fitted with three rose nozzles. The plate indicates that the syringe is fitted with an adjustable plunger, but the piston doesn't seem to be of this type. The picture to the left shows the end of the piston rod.

Benton & Stone Ltd



Above :- [537] {4} Brass syringe sprayer. Barrel length 20 inches and diameter 1⅝ inches. Hollow brass piston rod ½ inch in diameter. Fitted with Stone's Adjustable plunger. Cooper's drip protector. Fitted with jet and two rose nozzles, all fitted with a separate fast-fill valve. The nozzles are all engraved 'Reids Pattern'.

Above :- [621] {3} Brass syringe sprayer. Barrel length 18 inches and diameter 1½ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with Stone's Adjustable plunger. Cooper's drip protector. Fitted with jet and two rose nozzles, all fitted with a separate fast-fill valve. Plate shows it was made for 'Army & Navy Co-op'. They were in business 1871 to 1934.

Left :- Rose nozzles with a central fast-fill valve .

Below :- The three nozzles. Rose, spray and a further rose.

Benton & Stone Ltd

Above :- [650] {4} Brass syringe sprayer. Barrel length 20 inches and diameter 1½ inches. Hollow brass piston rod ½ inch in diameter. Fitted with Stone's Adjustable plunger with leather packing. Fitted with jet and two rose nozzles, all fitted with a separate fast-fill valve. Unusually, the holders for the nozzles not in use are on the piston rod.

Above :- [406] {3} Brass syringe sprayer. Barrel length 16 inches and diameter 1¼ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with a cotton reel piston ½ inch in length. Fitted with jet and rose nozzles. Both fitted with a separate fast-fill valve. Missing another nozzle which was probably an additional rose nozzle. Plate reads "Trade ENOTS Mark".

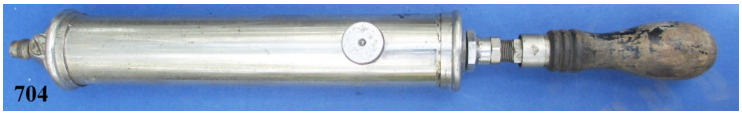
Above :- [487] {3} Brass syringe sprayer. Barrel length 16 inches and diameter 1 inch. Solid brass piston rod ¼ inch in diameter. Fitted with cotton reel piston ½ inch in length. Cooper's drip protector. Fitted with jet and rose nozzles. No fast-fill valve. ENOTS trademark.

Benton & Stone Ltd

Above :- [490] {4} Brass syringe sprayer. Barrel length 20 inches and diameter 1¼ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Fitted with cotton reel piston ½ inch in length, Cooper's drip protector. Fitted with an embossed grip. Standard rose nozzle.

Above :- [503] {4} Brass syringe sprayer. Barrel length 18 inches and diameter 1½ inches. Hollow brass piston rod ½ inch in diameter. Fitted with cotton reel piston ½ inch in length. Cooper's drip protector. Fitted with an embossed grip. Rose nozzle with central fast-fill valve.

Above :- [595] {3} Brass syringe sprayer. Barrel length 18 inches and diameter 1½ inches. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Fitted with back-to-back leather cup washer pistons. ENOTS is engraved on the barrel. Rose nozzle and another nozzle which may have been a jet. Handle missing.



Above :- [704] {2} Benton and Stone vaporiser. Barrel length 9 inches with a diameter of 1⅛ inches. Capacity ½ a pint. It has the ENOTS brand on the barrel end cap.

Benton & Stone Ltd

Left :- [495] {3} Brass pneumatic sprayer. Container height 10 inches. Diameter 4 inches. Spray nozzle. Cup washer piston.

Advertised in Kinematograph Weekly 1919 for perfuming and disinfecting theatres.

Versions badged 'W H C THURMAN DORCHESTER, and also 'R SUMNER LIVERPOOL' are known.

The early version (1902) appears to have a handle which is the full height of the container.

Left :- Top of sprayer and tap.

Left :- Main valve. Spring driven.

Right :- Piston.

Left :- The components of the spray nozzle. The spray plug on right.

Benton & Stone Ltd

Left :- [940] {4} THE ENOTS EVER READY SPRAYER. Brass pneumatic sprayer. Container height 5 inches. Diameter 3 inches. Spray nozzle.

Left :- The pump components. Piston with leather cup washer and spring on piston rod. Spring loaded valve.

Left :- The bottom of the sprayer which has a 1 inch diameter hole in the centre. Missing a plug.

Benton & Stone Ltd

Benton & Stone Ltd

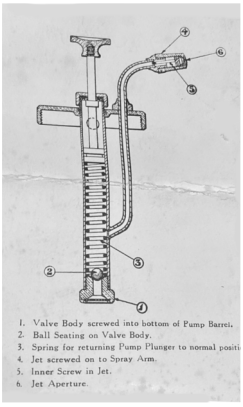
Above :- [451] {3} Detail of HYJECT sprayer. Produced around 1935 this was advertised for a variety of uses where mains water was not available and was supposed to be able to do an hours work in 15 minutes. Uses include car washing, firefighting, drain cleaning, and the spraying of limewash, disinfectant and insecticides. It was provided with a rubber suction hose fitted with a detachable stainless steel strainer, a 4ft rubber delivery hose, trigger control, extension lances, and four different nozzles.

Benton & Stone Ltd

Left :- {4} Benton and Stone made this small pump perfume sprayer holding a pint of liquid.

The version advertised in Country Life 28 January 1939 was named the Ever-Ready sprayer. It was made of chromium plated copper with a black handle. A version branded R SUMNER LIVERPOOL is known.

Below :- It was also available with a glass bottle, with a silver plated, or gold plated cap or pump. Advertised as a Perfume sprayer in the Tatler 1927. Container about 6 inches in height.



Left :- The mechanism is shown in the diagram.

Right :- [979] {4} Small perfume sprayer. Cut glass bottle with small spring loaded pump. Bottle height 4 inches. Based on a force pump but with only one valve.

Benton & Stone Ltd

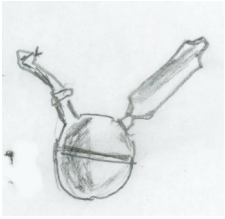
Left :- [967] {4} ENOTS. Pump sprayer, Chromium plated brass. Container height 3 inches. Diameter 2 ¾ inches. Spray nozzle.

Left :- The pump mechanism. Based on a force pump. Lever action.

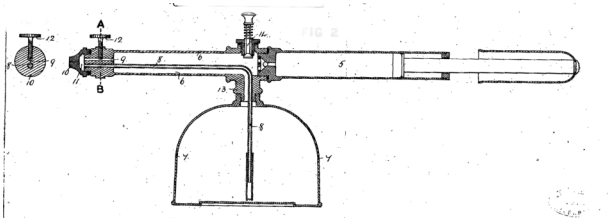
Foot valve controlled by a ball Spring action. (see below). Large filter.

Benton & Stone Ltd

Above :- This Enots diffuser was advertised in 1902, In some advertisements it is advertised as Stone's patent. The vessel was copper.



Left :- Drawing of small pump dating 1902. This uses the same round copper container as above with a small fixed air pump.



Above :- Drawing of Enots small hand sprayer referred to as Whites' Patent. Patent GB189915802 published 2 June 1900. Walter White was the works manager at Benton & Stone around the end of the 19th century. The sprayer was available in 1902 in a one pint size, and a two pint size. Described as being a substantial apparatus for producing a vapour like spray for the purpose of distributing water or liquid insecticides over plants in an effectual and economical manner. Easy to work and no delicate parts to get out of order. An air pump is used to pressurise the container but some air is allowed to pass directly to the nozzle to mix with the liquid from the container. This produces a fine atomised spray.

Benton & Stone Ltd

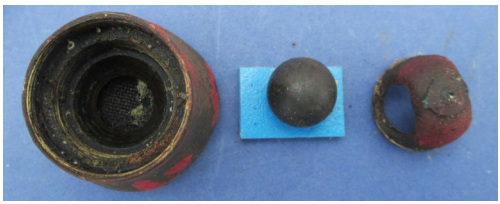
Above :- [790] {3} Mackenzie Disinfecting Sprayer. Made for the Thresh Disinfector Co, 66 Victoria Steet, Westminster, London SW 1. Barrel length 18 inches and diameter 1⅛ inches. Main construction is brass with a wooden handle and adjustable iron stirrups. Rubber hose. and 18 inch lance. Spray nozzle. Stuffing box and bulbous air chamber.

Benton & Stone Ltd

Left :- Mackenzie Disinfecting Sprayer plate. Mackenzie refers to Dr Leslie Mackenzie, medical officer to the Local Government Board for Scotland who advocated the use of disinfectant spraying in schools and hospitals Disinfectant recommended include carbolic acid and in hospitals formaldehyde. Books dating 1895 to 1920s specifically mentioned diphtheria, scarlet fever, measles, whooping cough and TB. The recommendation in 1895 was that schools were sprayed twice a year.

Right :- The piston rod and the piston valve. Shows the spring on the piston rod which buffers the rod when pulled to its full extent. The piston rod is ¾ inch in external diameter. It is hollow and acts as an air chamber, holding and compressing air while the piston is in motion. The piston is of the cotton reel type.

Below :- The foot valve and strainer. Controlled by a ⅜ inch ball.



Left :- The spray nozzle showing the spray plug (centre). The spray can be adjusted by screwing this in and out a fraction.

Benton & Stone Ltd

Appendix A

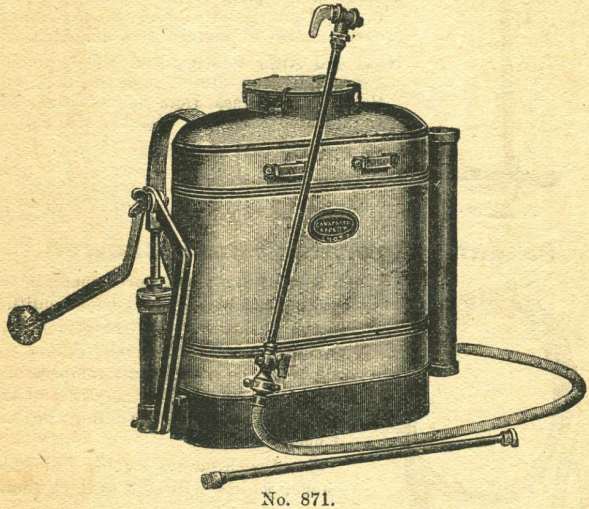
1910 Advertisement. It appears to be a straightforward knapsack sprayer with both an external pump and an air chamber. It does not seem to have an agitator. Also advertised by W H Willcox & Co, in 1917.

WILLIAM COOPER, Ltd., 761, Old Kent Road, London, S.E.

"Enots" Canapsack Sprayer.

The first of its kind, and still THE BEST.

This is a powerful and effective Portable Sprayer. It is easy to work, and comfortable to carry. All the working parts are outside the tank, and so are accessible.



No. 871.

The Tank is of stout copper—capacity, 3 gallons.

The Pump Lever is reversible: it may be worked either right or left hand.

The Delivery Hose is of special quality, 4ft. supplied. Fitted with brass lance, 33in. (in two parts).

The Jet (Powell's Patent) is the best all-round spray jet; it sprays at any angle, and covers a large area. It is cleared of obstruction by merely turning the plug round, and the grit is flushed out at the back.

IMPORTANT FEATURES.

There are two simplified Ball-Valves only, which are handy for inspection.

The Air Chamber is large, and maintains a continuous and uniform spray.

The Lid is comparatively watertight—liquid will not splash on to the back of the operator.

The Inlet is large, and is fitted with a suitable gauze strainer.

There is nothing about the machine to give trouble.

Cash Price, 45/- each.

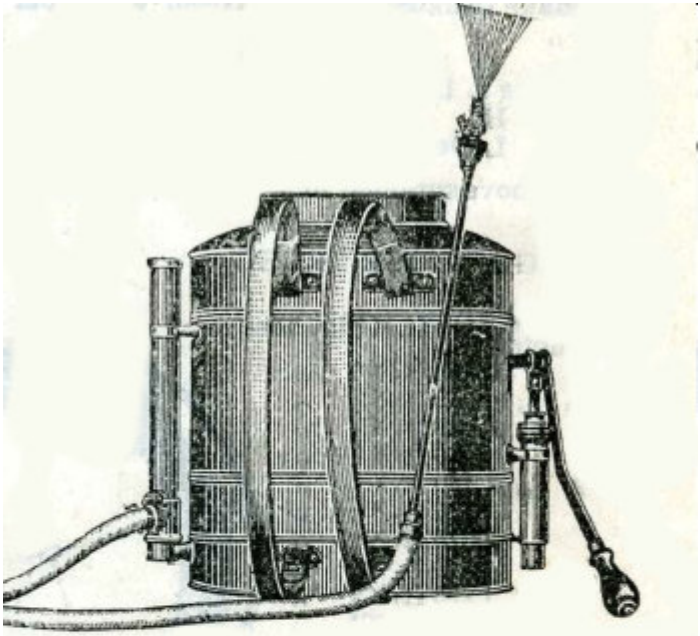
Awarded Silver Medal at both Wisbech and Middlesex demonstrations.

564

Benton & Stone Ltd

Appendix B

1915 to 1920 Advertisement in Harrods Ltd Catalogue.



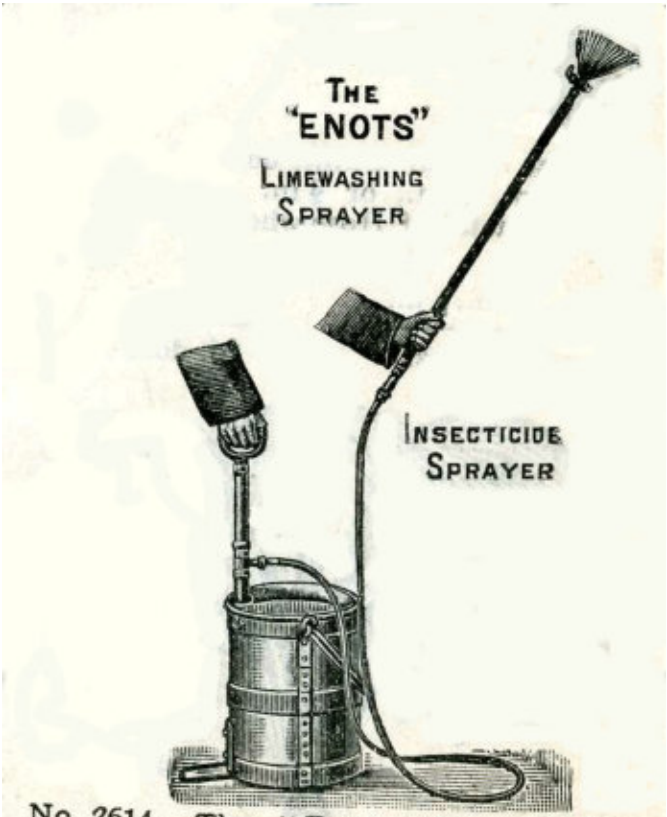
No. I R 2642. The "Enots" Canapsack Sprayer. This is a powerful and effective portable sprayer. Easy to work and comfortable to carry. All working parts are outside the tank, which is of stout copper. The reversible pump lever can be worked either right or left hand. It is fitted with Powell's patent spray jet, which sprays at any angle and covers a large area.

Price complete, with 4 ft. special quality delivery hose, and a 33-in. lance (in two parts), 50/6.

Benton & Stone Ltd

Appendix C

1910 to 1915 advertisement in Harrods Ltd Catalogue. Powell's patent jet may refer to William John Powell, but I cannot trace a patent for a spray nozzle.



No. 2614. The "Enots" Limewashing Machine, suitable for Dairymen, Farmers, &c. Capability, 200 sq. ft. in 5 minutes. Will reach 16 ft. high without the aid of a ladder. Weight, 19½ lbs. Capacity, 6 gallons. Galvanized pail, 6 ft. hose, and Powell's patent jet, price 48/6. Extra hose, 8d. per foot. Sent direct from makers, carriage paid to nearest railway station in England. Card of instructions sent with it.

Benton & Stone Ltd

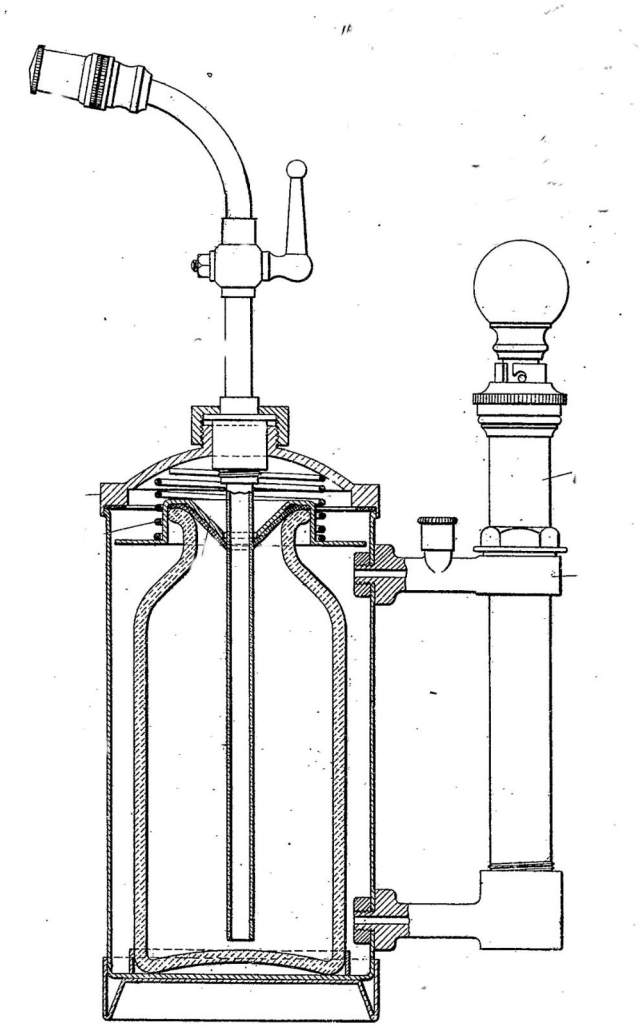
Appendix D

1921 Advertisement. Copyright 'Grace's Guide to British Industrial History'.

Benton & Stone Ltd

Appendix E

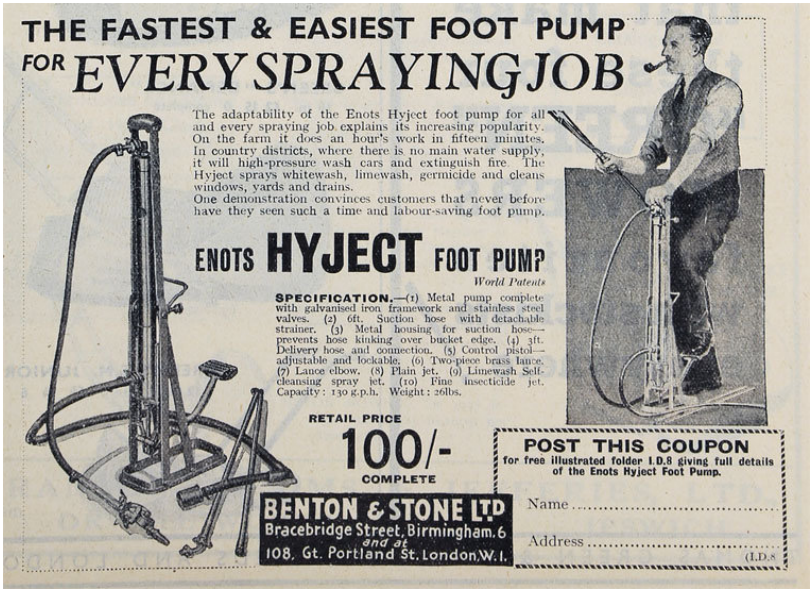
Drawing of 1922 patent pneumatic sprayer with a glass internal bottle protected by a brass outer casing.



Benton & Stone Ltd

Appendix F

1938 Advertisement. Copyright 'Grace's Guide to British Industrial History'.



Benton & Stone Ltd

Appendix G

1938 Advertisement.

Benton & Stone Ltd

Appendix H

1938 advertisement. Copyright 'Grace's Guide to British Industrial History'.

1939 Advertisement.

Benton & Stone Ltd

Appendix I

1951 advertisement. Copyright 'Grace's Guide to British Industrial History'.

Benton & Stone Ltd

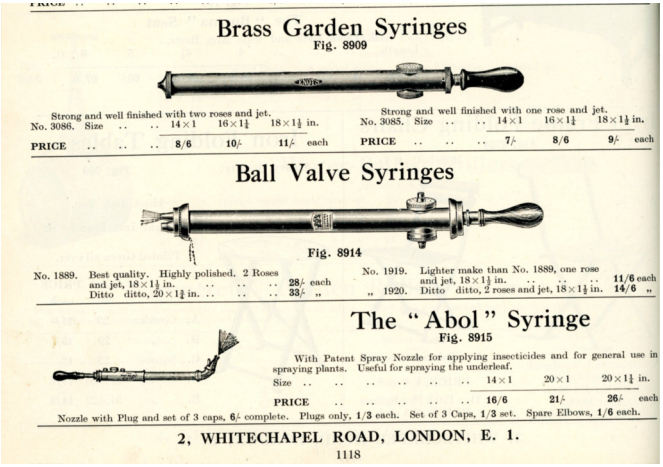
Appendix J

Benton & Stone - Trichloroethylene wound sprayer. 1936. (Note: Trichloroethylene is now considered a cancer causing substance)

Benton & Stone Ltd

Appendix K

Benton & Stone - Buck & Hayward 1935 Catalogue.



PRICE .. .. ..

Benton & Stone Ltd

Appendix L

WW II advertisement.

In quieter moments

We are applying ourselves whole-heartedly to the National production effort. It necessitates a change over from our normal output, but on the return to quieter moments we shall stand, as before, specialists in Spraying and Lubricating Equipment.

Enots
SPRAYING AND LUBRICATING EQUIPMENT
BENTON & STONE LTD BIRMINGHAM

Benton & Stone Ltd

Appendix M

Henry Gardiner Atkinson

Born 1863 and died 1941. Chairman from 1915 until at least 1939. In 1934 M.I.M.E., Chairman Benton & Stone, Ltd., Bracebridge Street, Birmingham. B. 18 September 1863, Liverpool. Educated at St. Michael's School, Handsworth, Birmingham; Birmingham Midland Institute; commercial training with Benton & Stone. Roles bench hand, pattern maker and designer, commercial traveller, Works Manager, Direcyor & Chairman, 1915/19, of Benton & Stone; Joint Managing Directors of the Birmingham National Shell Factory making shells in first world war. Widower. Interests: walking, motoring, reading.

HENRY GARDINER ATKINSON.

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Chapter 10

William Cooper

Cooper & Nephew

Cooper, McDougall and Robertson Ltd

Cooper & Nephew

Ranges and Models - KATAKILLA, KILLAMIST, JUNIOR and HYDROJECT

William Cooper (born 1814 died 1885) founded the business in 1851 based on a new sheep dip preparation. In 1852 he had a small factory in Ravens Lane, Berkhamsted, Hertfordshire where he manufactured the powdered dip. The factory was extended five times during the second half of the 19th century. Horse-powered mills were used for grinding, kilns for boiling the liquor and the factory also had areas where the sulphur was 'dressed'. In1868 William senior was joined by his nephew, William Farmer Cooper (born circa 1845 died 1882),

Around 1880 another nephew, Henry Herbert Cooper (born circa 1860 and died in 1891) joined the firm.

A further nephew, Richard Powell Cooper, joined the firm in or after 1881. He became the sole owner of the business following the death of his uncle. In the next 22 years, under his direction, the company went from strength to strength.

In the 1880s another factory, the Lower Works, was built in the High Street. A piece of land at the back of this factory was used as a wharf where barges carrying sulphur, arsenic and coal were unloaded, and reloaded with cases containing packets of powdered dip which were transported by canal to the London docks. In the 1890s new steam-powered machinery was introduced and carpenters were employed to make boxes to carry the dip.

1898 Richard's eldest son, Richard Ashmole Cooper, became a partner in the company. One of his first acts was to encourage the installation of a revolutionary machine for wrapping and weighing the packets of dip. He was also instrumental in setting up the Cooper Research Laboratory in the office building in Ravens Lane in 1904. When Richard Powell Cooper died in 1913 his son, Sir Richard Ashmole Cooper, took over the business. Then in 1920 the business became a limited company.

The derris insecticide (Katakilla) was introduced in 1923.

Cooper & Nephew

In 1925 the firms of McDougall & Robertson, William Cooper & Nephews, Tomlinson & Hayward Ltd and Abol Ltd merged to form Cooper, McDougall & Robertson Ltd. See the chapter on Abol for additional information. In 1959-60 the firm was bought by the Wellcome Foundation. Later ICI acquired an interest in the firm, which was later renamed Coopers Animal Health Ltd. It was wound up circa 1990.

1921 McDOUGALL BROTHERS, Ltd. of 66/68 Port Street, Manchester, and Messrs Alex. Robertson and Sons, Ltd. Argyle Chemical Works, Oban, which was presumably the formation of McDougall and Robertson.

All these businesses were primarily involved in chemical manufacture and there is no evidence that any of them ever manufactured sprayers. However, there are sprayers with manufacturer's plates for both Cooper & Nephew and Cooper, McDougall & Robertson Ltd.

Above :- [482] {4} Barrel length 20 inches and diameter ⅞ inch. Fitted with a Cooper's drip protector. Cotton reel piston ½ inch in length on a hollow brass piston rod ½ inch in diameter. Rose and jet nozzles. If the plate is correct this would date the sprayer to pre 1925.

Above :- [557] {4} Barrel length 20 inches and diameter 1¼ inches. The plate reads KATAKILLA SPRAYER. Fitted with a Cooper's drip protector. Cotton reel piston ½ inch in length on a hollow brass piston rod ⅜ inch in diameter. Rose and jet nozzles. Spray nozzle with separate fast fill valve controlled by a ball. Other KATAKILLA sprayers are known including the KATAKILLA JUNIOR with a separate fast-fill valve and a drip preventing sleeve.

Left :- The inside of the nozzle. The ball is held in with a 4 pin cage.

Cooper & Nephew

Left :- [252] {3} From the fittings this looks like it was part of a stirrup pump rather than a bucket pump. The sprayer smell strongly of disinfectant so this is probably what it was designed to spray.

Unusually, the foot and barrel end cap are soldered in place. The sprayers is double action. The inlet valve is ball controlled and there is a ball valve on the hollow piston rod. The handle forms an air chamber. On the pull stroke the foot valve is open and the piston valve closed. Liquid is sucked into the barrel below the piston. At the same time the liquid in the barrel above the piston is forced out through the outlet. Air in the piston rod and handle is compressed. On the push stroke the inlet valve closes and the piston valve opens. This allows liquid to flow into the space behind the piston between the piston and the barrel wall and through the outlet. Liquid also flows into the hollow piston rod compressing the air in the handle. As the end of each stroke there is a point where the user is applying no pressure. At this point the compressed air in the piston rod and handle power the spray.

Cooper & Nephew

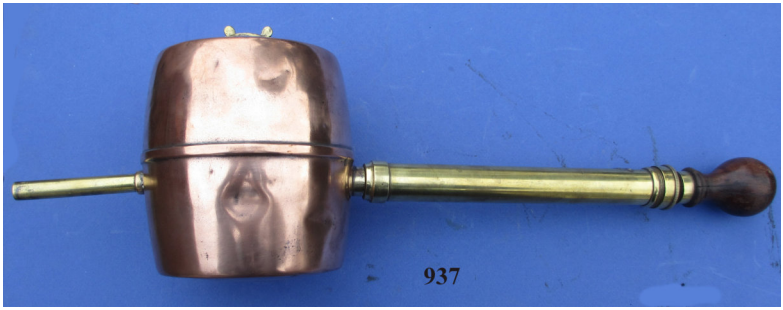
Above :- [825] {3} COOPER'S tinplate mist sprayer. Designed for insecticides and disinfectants. Remains of yellow paints suggests it was once painted yellow. It has COOPER'S embossed on the end of the cannister. Barrel length 12 inches and diameter 1¾ inches. Forward facing leather cup washer for the air pump. This has a large internal metal cup washer. Cannister 4½ inches in height and 4 inches in diameter. Capacity 1 pint.

Left :- Close-up of the nozzle. The bottom tube leads into the container. The top tube comes from the air pump. The pump also supplies air to the container which pressurises it forcing liquid from through the lower tube. Here it mixes with the air coming directly from the pump to form an atomized spray.

Left :- The piston. Showing the large internal metal washer which support the cup washer.

Above :- [972] {3} COOPER'S tinplate mist sprayer. Designed for insecticides and disinfectants. Barrel length 12 inches and diameter 1¾ inches. Forward facing leather cup washer for the air pump. This has a large internal metal cup washer. Cannister 4½ inches in height and 4 inches in diameter. Capacity 1 pint. It does not have COOPER'S embossed on the end of the cannister.

Cooper & Nephew



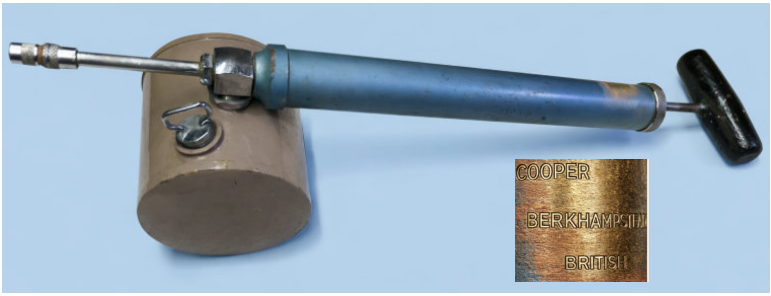
Above :- [937 {5} McDougal & Robertson 'KILLASPRAY' mist sprayer. The sprayer has a copper container with a brass air pump. The nozzle is missing. Container height 5 inches with a diameter of 4⅛ inches. Filler cap in top. Internally, a tube runs from the outlet pipe up towards the filler. With this arrangement the sprayer stops spraying when the filler cap is on the top. Brass air pump 8 inches long and 1 inch in diameter. Single forward facing leather cup-washer. The air pump valve is missing. Provisional patent 7032 but I cannot find this. Probably earlier than 1925.

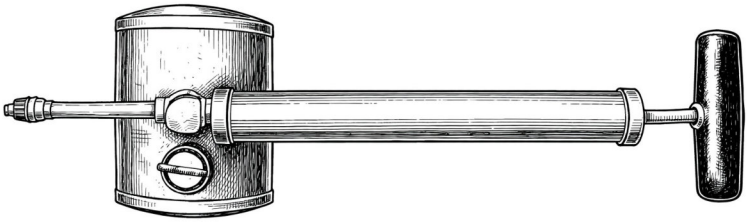
Above :- The top and bottom of the container.

Above :- The piston rod and piston.

Right :- Coopers sold the Nesthill COSMOS sprayers branded with their name.

Cooper & Nephew





Above :- Brass barrel length 9 inches and diameter 1¼ inches. Engraved on the barrel is COOPER MCDOUGAL AND ROBERTSON LTD BERKHAMPSTEAD BRITISH MAKE. Piston rod is solid steel with a forward facing cup leather cup washer backed by a large metal washer. Container diameter 4 inches and height 4 inches. Capacity about 1½ pints. The front valve is a ball valve with a $^{3}/_{16}$ inch brass ball. Air from the pump passes into the container and directly to the nozzle. There is a metal supply tube running from the bottom of the container to the nozzle. Air pressure forces liquid through this tube to the nozzle where it combines with air coming directly from the pump. The air and liquid mix forms a very fine spray. The container is filled through the top. This appears to be the Nesthill COMOS sprayer branded for Cooper's. There is a similar sprayer branded for BOOTS (see Retailers).

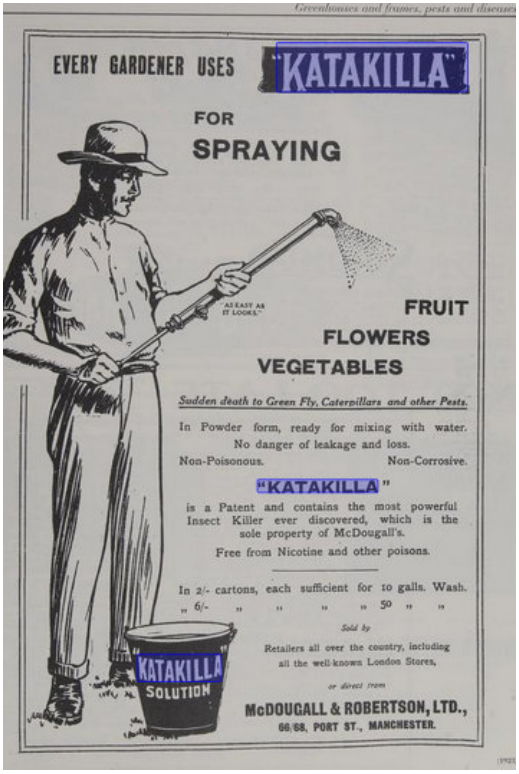
Cooper & Nephew

Below :- 1955 Advertisement. Cooper, McDougall and Robertson Ltd were one of the first companies to sell aerosol sprayers. These quickly replaced the use of vaporisers in the home.

Below :- 1915 Advertisement. McDougall.

Cooper & Nephew

Below :- 1912 Advertisement and 1923 advertisements,



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Chapter 11

Cooper, Pegler & Co Ltd

Cooper, Pegler & Co Ltd

Cooper, Pegler & Co Ltd - 26a Christopher Street, London, EC2. (1919). In 1938 at 24a/24b Christopher Street, Finsbury Square, London EC2. Also, at some time 29d Clifton Street, Finsbury Square London. In 1945 their temporary address was 'Delgenish' Chipstead Surrey, then by 1961 Burgess Hill, Sussex.

The company was founded in 1894 by Henry Ernest Cooper and Frederick Charles Pegler. Cooper, Pegler had the world marketing rights to the sprayers made by the French company Établissements V. Vermorel. Following WW II Vermorel concentrated on producing agricultural equipment. Vermorel finally closed in 1965. To complete the picture, in 1995 Cooper, Pegler was integrated into the Hardi Group and then in 2007 into Exel Industries.

Ranges/models - ALBADUR, AUSTRALIA, AUTO-ARBOREX, BLOWFINE, CASCADE, CHARLOCK, DUAL, ECLAIR, EXCELSIOR, FALCON, FAVORI, FOG, HEADLAND CASCADE, HYDRA, HYDROJECT, NEO-LEO, NOE, ONDINE, PLAFOG, PRESTO, RES, SALVA, SAPOM, SEM, TORPILLE - BLUETTE

The company supplied all types of spraying machines and pumps, including powder blowers for horticultural use. The majority were made by the French Company Vermorel so only a few of the more interesting examples are included here.

Above :- [402] {2} The HYDRA self supplying hand sprayer. Uses a large spring to provide pressure on the plunger back stroke. Missing the hose. Also it probably had an additional nozzle as it has a holder. The sprayers uses 10mm brass balls in the valves, which supports the idea that it is a Vermorel sprayer. Known with an inlet hose which has a filter. An advertisement from 1959 shows that it was optionally supplied with a container.

Cooper, Pegler & Co Ltd

Cooper, Pegler & Co Ltd

Right :- [529] {4} Bucket pump. This sprayer uses a displacement piston which does not have a piston head as such. The diameter of the piston rod is nearly the same as the inner diameter of the barrel and the sprayer works as this displaces liquid.

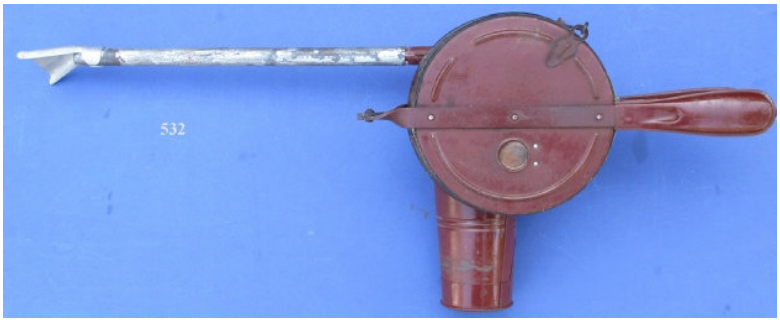
This is not specifically identified as a Vermorel sprayer and uses ½ inch balls in the valves which suggests that it might not be Vermorel.

For full details of how this sprayer works see Volume 1 in this series.

Hose is a replacement.

Inset is a similar sprayer but free standing without the bucket. Note the slightly different handle shape.

Cooper, Pegler & Co Ltd



Above :- [532] {2} Cooper, Peglar & Co Ltd, Vermorel powder blower. Container height 12 inches. The bottom of the container is removable to allow it to be filled with powder. Side bellows provide the air stream and a lever attached to the bellows turns an internal fan which disturbs the power so that it is sucked into the air stream. A lever on the top controls a vent which determines how much powder is distributed. The powder blower is mainly made of tinplate. The concertinaed part of the bellows are made of a plastic covered cloth. The bellows valve is a simple flap made of a similar material. As well as the label the container is also embossed "Made in France".

Cooper, Pegler & Co Ltd

Above :- [551] {2} Cooper, Peglar & Co Ltd, Vermorel powder blower. Operated by the handle in the foreground.

Cooper, Pegler & Co Ltd

Left :- [456] {2} The PLAFOG sprayer. It dates from around 1960 at a time when plastic was replacing brass. Weight 2lb, length 22 inches and capacity ½ gallon. The sprayer uses a displacement pump. The plunger rod nearly fills the pump barrel and the pump works by the rod displacing the liquid within the barrel. This eliminates the need for a piston. The sprayer has two valves. An inlet or suction valve inside the container and connecting into the pump barrel. This valve is controlled by a bronze ball. There is also a delivery valve incorporated into the nozzle. This is controlled by a rubber disc. On the pull stroke the barrel is filled as the withdrawal of the piston rod creates a vacuum in the barrel. On the push stroke the plunger rod displaces the liquid in the barrel forcing it through the nozzle. To work, the nozzle needs a tight seal where the plunger rod passes into the sprayer (stuffing box). This seal is provided by leather washers which are held in place by a brass gland nut. There is a rubber buffer washer to protect the pump cap from damage by the handle.

Left :- The nozzle components.

Below :- The rubber disc forming the front valve. Held in place by the spring.

Cooper, Pegler & Co Ltd

Left :- The internal inlet tube which houses the suction valve. This connects into the internal barrel. For maintenance this could be turned upwards so that it could be accessed through the filler cap.

Below :- The PLAFOG box. There is no indication on the sprayer or box of the country of manufacture.

Cooper, Pegler & Co Ltd

Advertisement 1948

COOPER, PEGLER & Co., Ltd.

Temporary Address : "DELGENISH," CHIPSTEAD, SURREY

Telephone : DOWNLAND 568 *Telegrams :* STOMATA, PHONE, LONDON

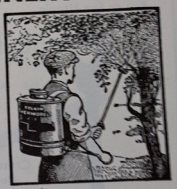
VERMOREL SPRAYING MACHINERY

for

APPLYING ALL WASHES AND DUSTS, LIMEWASH, CREOSOTE AND DISINFECTANTS

Please write for complete illustrated Catalogue

The "Hydra"



The "Eclair"

The following are amongst the types made and IN STOCK ready for immediate despatch :

THE BUCKET SPRAY PUMP is recommended for applying Limewash, Whitewash, Water Paints, Distemper, Creosote, Disinfectants and all spray washes, etc. It is fitted with an all-metal piston of a special type, which eliminates the use of piston leathers—a most important feature and a great advantage. The Compression Cylinder is large and ensures a powerful and continuous spray at 60 lb. per sq. in. The inlet is fitted with a Strainer which prevents choking. Weight complete 7¼ lb. Price complete **£4 17s. 6d.** each.

THE "HYDRA" SPRAYER (as illustrated). This Sprayer differs from others of a similar type as it has a special device which ensures a continuous and powerful spray at a pressure of 60-70 lb. per sq. in. The advantage of a continuous spray is that the work can be done more efficiently, more quickly and more easily. Weight complete 3½ lb. Price complete **£2 19s. 6d.** each.

HAND BELLOWS (MODEL "M") recommended for small scale powder dusting. These Bellows give a very powerful blast of air, which ensures efficient distribution of powder. Powder capacity 2 lb. Overall length 29 in., including 13 in. Lance and Spreader. Overall width 12 in. Weight 2¼ lb. Each Bellows is packed in a strong carton, which can be despatched by post, road or rail, without further packing. Price complete **£1 16s. 0d.** each.

THE VERMOREL PNEUMATIC HAND SPRAYER is light and very easily worked. Pressure is established before spraying is started—during spraying no pumping—both hands free. The spray is controlled by a Lever Tap which allows the spray to be released or shut off instantaneously. Made of Brass Alloy for use with Lime Sulphur. Working capacity 3½ lb. Weight complete 4 lb. Price complete **£6 4s. 0d.** each.

THE "FOG" SPRAYER is fitted with an all-metal piston of a special type, which eliminates the use of piston leathers—a most important feature and a great advantage. This easily handled Machine works at a high pressure and gives a very fine mist spray. The Variable Nozzle can be set quickly and easily to throw a spray to any distance between 20 in. and 10 ft. from the Nozzle. Special Brass Alloy 3½-pint container. Weight complete 2¼ lb. Price complete **£3 5s. 0d.** each

THE "ECLAIR" KNAPSACK SPRAYER (as illustrated) is the original Knapsack Sprayer, known, used and approved throughout the world. The internal diaphragm pump makes pumping easy. The tank holds 3½ gallons. Weight complete 14 lb. Copper tank for Bordeaux Mixture, etc. Price complete **£9 16s. 0d.** each. Brass Alloy tank for all fruit tree washes, including Lime Sulphur. Price complete **£10 2s. 6d.** each. Lead coated copper tank for Sulphuric Acid. Price complete **£10 10s. 0d.** each.

THE "NOE-COLIBRI" HIGH-PRESSURE PNEUMATIC KNAPSACK SPRAYER has the advantage that when the Sprayer is emptied of liquid the air pressure is retained, so reducing the labour and the time required for filling. Pressure up to 175 lb. per sq. in. The "Noe-Colibri" is charged by a separate pump, one Pump can be used for up to twelve Sprayers. Working capacity up to 3 gallons. Weight complete 19 lb. Sprayer price complete **£16 10s. 0d.** each. Pump price complete **£10 15s. 0d.** each.

THE "TORPILLE-BLUETTE" DOUBLE-ACTION KNAPSACK POWDER SPRAYER for dusting Sulphur and all powders. This machine is easy to work, the distribution of the Powder is continuous and the output can be controlled. Powder container holds 15 lb. Weight complete 14½ lb. Price complete **£7 19s. 6d.** each.

THE "PRESTO" SPRAYING AND LIMEWASHING MACHINE has a rubber diaphragm pump, which eliminates the trouble of piston leathers. The 11-gallon tank is made of lead-coated sheet iron for Limewash, etc., or of special Brass Alloy for all fruit tree washes. A single wheel with push handles is fitted. Price complete with lead-coated sheet iron tank **£15 5s. 0d.** each, or with Brass Alloy tank **£21 0s. 0d.** each.

THE "HEADLAND-CASCADE" HIGH-PRESSURE SPRAY PUMP WITHOUT TANK. This machine works at a pressure of up to 220 lb. per sq. in., and is supplied complete with 9½ ft. of suction hose, pressure gauge, 30 ft. of high-pressure hose, and 18-in. Spray Gun. Price complete **£23 12s. 6d.** each.

THE "CASCADE" HIGH-PRESSURE HAND-POWER SPRAYER (on two wheels with push handles) gives the same spraying results as a Power Outfit, except that it has a smaller output. The "Cascade" has a 22-gallon Brass Alloy tank for use with all fruit tree spraying washes, fitted with Automatic Agitator, and works at a pressure of up to 220 lb. per sq. in. Can be used with ordinary or variable spray lances (spray guns). Weight complete 1 cwt. Overall length without detachable handles 3 ft. 3 in. Overall width 2 ft., or with pneumatic tyred wheels 2 ft. 3 in. Price complete with 10 ft. high-pressure delivery hose and 18 in. Variable Spray Lance, on iron wheels **£74 17s. 6d.**, or with pneumatic tyred wheels **£85 12s. 6d.** complete.

OTHER TYPES AVAILABLE INCLUDE :—

"SALVA" BUCKET SPRAYER for Limewashing and fruit tree spraying. Price complete **£8 18s. 0d.** each.

"REX" three-jet Lance for use with "Eclair" Knapsack Sprayer for spraying weed killers. Price complete **£5 10s. 0d.** each.

"SEM" PNEUMATIC KNAPSACK SPRAYER Price complete **£18 2s. 6d.** each.

BAMBOO LANCES 4 ft. 10½ in. to 13 ft. long for tall trees, etc. Prices from **£2 8s. 6d.** to **£4 12s. 0d.** each.

"AUSTRALIA" BARREL PUMP (cart Sprayer) for use in any farm cart, for spraying potatoes, Charlock, etc., with Bordeaux Mixture, Sulphuric Acid, etc. Price complete **£63 7s. 6d.** each.

"SAPOM" HORSE AND TRACTOR DRAWN AUTOMATIC SPRAYER with 90-gallon lead-coated sheet iron tank for spraying potatoes, Charlock, etc., with Bordeaux Mixture, Sulphuric Acid, etc. Prices from **£197 10s. 0d.** each.

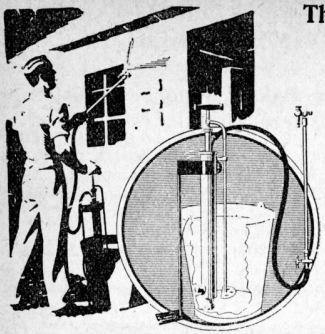
POWER-SPRAYING OUTFITS WITH AND WITHOUT TANKS, holding from 22-132 gallons, and working at pressures up to 570 lb. per sq. in. Prices from **£90 12s. 6d.** each.

"EXCELSIOR" SOIL INJECTOR for diffusing Carbon Bisulphide, etc., into the soil. Price **£16 17s. 6d.** each.

FOR DISCOUNTS, TERMS, ETC., SEE QUARTERLY LIST

Cooper, Pegler & Co Ltd

Advertisement 1937



The Vermorel Bucket Pump (S).

For applying Disinfectants, Limewash, Whitewash, Water Paints, Creosote, etc. and for Washing Cars, Windows, etc.

The compression cylinder is large, and this ensures a powerful and continuous spray. The inlet is fitted with a strainer which prevents choking. As *no* working parts are of rubber, paraffin oil, etc. emulsions may be used.

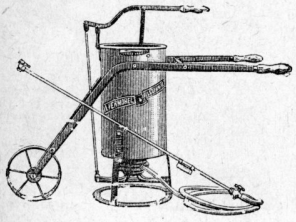
No. 9.—Pump complete as described and as illustrated 30/–

No. 10.—As above, but fitted with agitator for spraying limewash and thick liquids... ... ... 37/6

No. 11.—As No. 9, but with lance without tap and without swivel nozzle, but with a nozzle for throwing a straight jet of water for simple washing... 25/–

This Pump can be supplied fitted to a 4-gallon container ... Prices from 78/–

The "Hydra" Self-Supplying Syringe, price complete 27/6, differs from others of a similar type as it is fitted with a large Compression Cylinder and gives a continuous and powerful spray at a pressure of 60 to 70 lbs. per square inch. The advantage of a continuous spray is that the work can be done more efficiently, more quickly and more easily.



The "Presto" Single Wheeled Sprayer and Limewasher (S).

Mounted on Wheel and fitted with Push Handles, 2 Strainers, Agitator and Self-clearing Swivel Nozzle, which will spray in any direction. The handles and wheel are detachable. Weight 56 lb.

A large compression cylinder ensures a continuous spray Made in two sizes, 6 and 11 gallons capacity.

PRICES £5 17s. 6d.
and £6 12s. 6d.

"ECLAIR" Knapsack Sprayers (3¼ Gallons.) (S).

No. 1. The original standard copper model	59/–
Brass Alloy. For use with lime sulphur, etc.	62/–
Plombe. For spraying liquid acids	67/–
Agitator. For spraying limewash and mixtures which need constant stirring	76/–

"Eclair" Sprayer.

The "Noe-leo" Self-Contained Pump Model (S).

This model retains air pressure and so reduces the amount of pumping at each filling. Brass Alloy container for use with Lime Sulphur. Total capacity, 5 gallons. PRICE, 130/–.

A smaller model is made with a total capacity of 4 gallons. PRICE, 125/–.

Both these models work at a **pressure of up to 110 lb. per square inch.**

A special model of the "Noe-Leo" machine is made, which works at a **pressure of 175 lb. per square inch.** PRICE, 160/–.

A similar type of machine is made in which the air pressure is not retained, in two sizes, total capacities 5 and 1¼ gallons. PRICES 95/– and 78/–.

This machine works at a **pressure of up to 90 lb. per square inch.**

Carriage paid in Great Britain.

Stocks of all machines and spare parts are available for immediate despatch throughout the year. Kindly write for complete catalogue of Vermorel "Eclair" Spraying, Limewashing, Disinfecting, Creosoting and Car-washing Machines which will be sent free on application.

See your Member's Ticket for "C.G.A." discounts.

Cooper, Pegler & Co Ltd

Advertisement 1937

Vermorel
Rotary Fan Dust Gun.

POWDER SPRAYERS AND DUSTING MACHINES

The Vermorel Rotary Fan Dust Gun (S).

Full particulars of this powerful powder blower will be sent on application. PRICE complete, with one outlet for fruit, etc., 79/6 and with two outlets for potatoes, etc., 89/6.

This machine is used for rabbit and rat gassing work.

The "Torpille" Knapsack Sprayer.

Double Action. Powder Capacity 15 lb. This machine gives a continuous distribution of powder as the action of the bellows is double. PRICE 48/–.

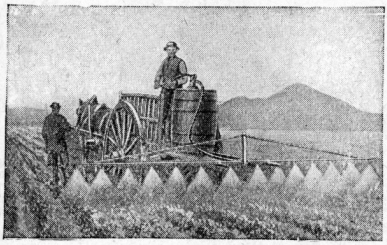
Single action machine. Powder Capacity 11 lb. PRICE 37/–.
A special Double Outlet Lance for spraying potatoes is made. PRICE 7/–.

The Vermorel Hand Powder Dusters

PRICES from 9/6.

The "Australia" Barrel Pump (S).

A Powerful Pump which can be used with any cask, barrel, or other container and placed in a farm cart when spraying work is being done.



FOR SPRAYING CHARLOCK, POTATOES, AND ALL GROUND CROPS.

This Pump can be supplied with horizontal Lance and five Vertical Lances, each fitted with a double nozzle. This Lance can be adjusted to spray down on to or up under the leaves of crops. The distance between the vertical Lances and the height of the nozzle from the ground can be adjusted.

Price complete, with five vertical Lances, Unions, India Rubber Tubing and Wooden Bearers which hold Horizontal Lance and are fixed to cart, £14 15s. 0d. Or with a 3 row Lance, £12 5s. 0d. Or with Horizontal Lance and 14 Single Jets (as illustrated) for spraying Charlock, etc., £12 17s. 6d. case free. This machine is made specially for **spraying Sulphuric Acid**. This Pump can also be supplied with special Lances for Fruit Tree Spraying.

Automatic Horse-drawn Sprayers are also made, with tanks holding from 44 to 90 gallons and with 5, 7, 14 and 24 nozzle lances. These machines are made specially for **spraying Sulphuric Acid** and they are also recommended for spraying potatoes and general ground crop spraying work. Prices from £37 15s. 0d. Other Sulphuric Acid spraying Machines are made, see the "Australia" Barrel Pump above and the "Eclair" Plombe Knapsack Sprayer on page 656.

Special High-Pressure Hand-Power Sprayers

FOR SPRAYING FRUIT TREES.

These are the machines in general use for medium size acreages, where no power outfit is available.

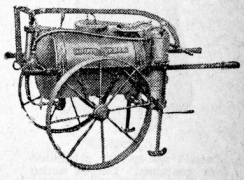
In addition to the Pneumatic Machines on the previous page, there are the :

"CASCADE" Hand Power Sprayer, working at a pressure of up to **300 lb. per square inch** fitted with 22-gallon Brass Alloy container. PRICES from £18 19s. 6d.

The Vermorel HEADLAND Pump, working at a pressure of up to **220 lb. per square inch.** This machine has no container but draws the spray fluid by suction from a barrel. Weight complete is 94 lb. PRICES from £12 10s. 0d.

The "Dual" works at a **pressure of up to 250 lbs. per square inch** and is of a similar type to the Vermorel Headland Pump. Weight complete 88 lbs. Prices from £11 10s. 0d.

The "Ondine" Single wheeled Pneumatic Sprayer works at a **pressure of up to 220 lbs. per square inch.** This machine has an 11 gallon tank of Brass Alloy for use with Lime Sulphur, etc., and this sprayer can also be used as a continuous pumping machine. Weight complete 83 lbs. Prices from £13 10s. 0d.



Full particulars of these outfits are given in the complete catalogue.

Carriage Paid in Great Britain.

Stocks of all machines and spare parts are available for immediate despatch throughout the year. Kindly write for complete catalogue of Vermorel "Eclair" Spraying, Limewashing, Disinfecting, Creosoting and Car-washing Machines which will be sent free on application.

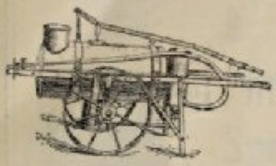
See your Member's Ticket for "C.G.A." discounts.

Cooper, Pegler & Co Ltd

WINTER SPRAYING AND LIMEWASHING.

The Vermorel "Eclair" Series.

No. 7. The "CASCADE" SPRAYER and LIMEWASHER.



All Types Made and Stocked.

3½ pints to 66 gallons.

A very powerful pump, which will supply two spraying lances at once. It can be supplied with 3 ft., 9 ft., or 13 ft. lances. Fitted with a SPECIAL FIRE EXTINGUISHING Lance it will throw a heavy jet of water 60 feet.

A useful machine for all work from Carriage or Car Washing to Fruit Tree Spraying and Limewashing.

WATCH THIS SPACE EVERY MONTH
FOR A DIFFERENT TYPE OF SPRAYER.

The following **Spraying** and **Limewashing Machines** were described in previous issues of this Journal:—

March and November	Knapsack, 3½ gallons.
April	Hand, 3½ pints.
May and October.	Bucket, 3½ gallons.
June and December	Single-wheeled, 6½ gallons.
July	Horse-drawn Pneumatic, 66 gallons.
August	DRY SPRAYERS. Hand-Knapsack-Horse-drawn.
September ...	2-Wheeled, 22 gallons.

Full particulars and catalogues from—

COOPER, PEGLER & CO., Ltd., 24b, Christopher St., E.C.2.

SPRAYING MACHINERY

FOR APPLYING ALL WASHES and DUSTS, LIMEWASH, CREOSOTE and DISINFECTANTS

THERE IS THE RIGHT MACHINE FOR EVERY JOB—ASK A FRIEND WHO IS USING A VERMOREL SPRAYER

No. 12.—THE VERMOREL HEADLAND PUMP.

A Sprayer which has met a general demand.

Special points: Smoothly made, but light in weight, makes High-pressure spraying possible with a low-priced machine. Pressure up to 220 lbs. per square inch with ordinary nozzle, or 150 lbs. with a Spray Gun. Not affected by tar-oil, lime-sulphur, etc. Weight complete 94 lbs. Length 4 ft. 6 ins. Width 1 ft. 10 ins. Supplied complete with 8 ft. suction hose, with strainer and pressure gauge. Can be supplied with any length of delivery hose, and 3 large variety of our Lance Spray Lances (or Guns), of which full particulars are given in our catalogue.

VERMOREL HEADLAND PUMP

Price, 160 litre **£11 15s.** in complete with 30 ft. Special Tar Work Suction Hose and 3 different Variable Spray Lances (or Guns) **£14 15s.**

All Types of Wet and Dry Sprayers Made and Stocked.
Capacities from 2½ pints to 110 gallons.

Prices from **8 6** to **£127 10s.**

Catalogues and full particulars of all types from:

COOPER, PEGLER & CO., LTD., 29d, Clifton Street, Finsbury Square, London, E.C.2

SPRAYING MACHINERY FOR APPLYING

ALL WASHES & DUSTS, LIMEWASH, CREOSOTE & DISINFECTANTS

THERE IS THE RIGHT MACHINE FOR EVERY JOB—ASK A FRIEND WHO IS USING A VERMOREL SPRAYER

No. 25.—The Vermorel Dust Gun and Powder Blower.

Price complete with one lance, £2.12.6 with two lances, £3.6.6 See bel.

This type of Powder Blower or Duster is preferred by some users to the Knapsack Bellows type, of which our "Favorite" double and single action machines are the best known and amongst the most efficient.

The Rotary Fan Dust Gun possesses the advantage of distributing a CONTINUOUS sheet of powder, and this sheet is better and more out with to the greater force than that of the Bellows type.

It is fitted with a flexible metal tube which allows of the lance being directed either to the air or towards the ground for the treatment of trees or ground crops. It is supplied either with one or two outlets when two rows of ground crops can be dusted at the same time.

Depending upon weather conditions, a height up to 25 feet from the ground can be dusted. The output of powder can be regulated.

SEVERAL IMPROVEMENTS HAVE BEEN MADE IN THE 1926 MODEL

Weight complete 15 lbs. Powder Capacity 12 lbs.

Price Bellows and Knapsack Sprayers from £2.10.0. Automatic Horse-Drawn Powder Sprayers from £26.10.0.

All types of Wet and Dry Sprayers MADE AND STOCKED. 1½ pints to 30 gallons.

Prices from 11/6 to £85.

Catalogues and full particulars from—

COOPER, PEGLER & CO., LTD., 26d, Christopher Street, Finsbury Sq., London, E.C.2

Cooper, Pegler & Co Ltd

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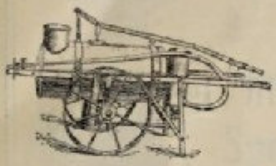
The Vermorel "Eclair" Series.

No. 7. The "CASCADE" SPRAYER and LIMEWASHER.



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All Types of Wet and Dry Sprayers Made and Stocked.
Capacities from 2½ pints to 110 gallons.

Prices from **8 6** to **£127 10s.**

VERMOREL HEADLAND PUMP

Prices, 16in. **£11 15s.** in complete with 30 lb. Special Tar Work Nozzles. Hose and Lances. Portable Spray Lances for Guns £34 15s.

Catalogues and full particulars of all types from:

COOPER, PEGLER & CO., LTD., 29d, Clifton Street, Finsbury Square, London, E.C.2

SPRAYING MACHINERY FOR APPLYING

ALL WASHES & DUSTS, LIMEWASH, CREOSOTE & DISINFECTANTS

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Prices from 11/6 to £85.

Catalogues and full particulars from—

COOPER, PEGLER & CO., LTD., 26d, Christopher Street, Finsbury Sq., London, E.C.2

Cooper, Pegler & Co Ltd

VERMOREL'S KNAPSACK SPRAYERS.

The Original and the Best.

Have won over 500 First Prizes and Medals.

"**ECLAIR**" No. 1 for Spraying Fruit Trees, Flowers, and Vegetables. Price **36/6**.

"**ECLAIR**" No. 3 for Limewashing and Disinfecting Industrial Buildings. Prices **45/-** and **49/-**.

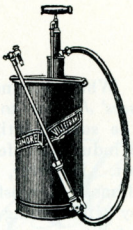
Sole Agents: CHARLES CLARK & CO., 16a, Bevis Marks, LONDON, E.C.

"ECLAIR" KNAPSACK
3½ gallons.

SPRAYERS MADE
3½ pints to 66 gallons CAPACITY.

SPRAYING
LIME-WASHING
DISINFECTING
VERMOREL "ECLAIR" MACHINES.

"PRESTO" 6½ gallons.



"SALVA"
BRASS ALLOY
3½ gallons.

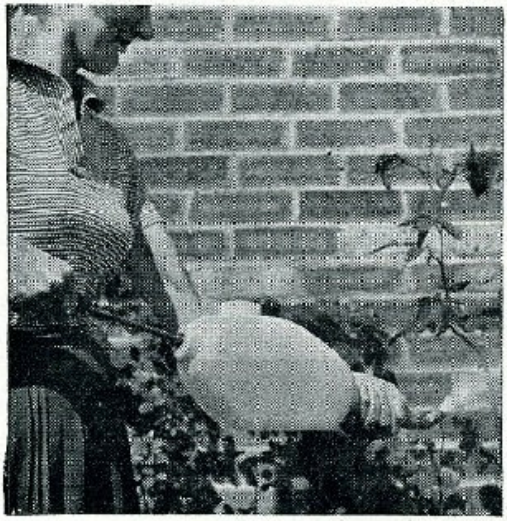
STOCKS HELD.

CATALOGUE of FULL RANGE of MODELS and DETAILS of TYPES ILLUSTRATED from

COOPER, PEGLER & CO., LTD.,
24a-26, CHRISTOPHER STREET, FINSBURY SQUARE, LONDON, E.C.2

Cooper, Pegler & Co Ltd

1960 Advertisement.



THE "PLAFOG"

½ gln. Plastic Tank, light and extremely robust, with an all-metal piston pump. Delivers a fine, penetrating mist spray of up to 200 lbs p.s.i. with little effort.

Spraying and Dusting Machinery for all purposes.

Write for Catalogue to:

COOPER, PEGLER & CO. LTD.
P. O. Box 9-39,
Burgess Hill, Sussex.

Cooper, Pegler & Co Ltd

Advertisement.

WEED CONTROL

"ECLAIR"
Knapsack Sprayer,

Fitted
with " REX " Lance,

three ceramic fan
spray nozzles,
giving complete
coverage of 4′ 9″:
approximately
11 gallons per acre
at 2 m.p.h.

"LEO COLIBRI"
Pressure Retaining
Pneumatic
Knapsack Sprayer,

with Cooper Pegler
Pressure Regulating
Valve and 4′ 6″
four nozzle boom,
mounted on TWO
WHEELED CARRIER.
Complete coverage
of 6 ft: approximately
1600 square yards
on ONE charge.

WRITE for Catalogue of Spraying and Dusting Machinery
COOPER, PEGLER & CO., LTD.,
P.O. Box 9-128, Burgess Hill, Sussex.

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Chapter 12

W J Craven & Co Ltd

W J Craven & Co Ltd

W J Craven & Co Ltd - 48 & 50 Port Street, Evesham. Agricultural Chemists and Spraying Contractors.

Models - BELUMITE, CRAVEN, DRIFTA, EARLY BIRD, FERRET, HYDRAULUX (or HYDRALUX), MARVIL, MIDGET, TORNADO, WHIRLWIND.

Patents

GB124021A dated 28 February 1919. Walter Joseph Craven, 50 Port Street, Evesham and Frederick Thould. Knapsack sprayer. with a reciprocating barrel inside the container. This is an unusual design (see drawing below).

GB339181A dated 12 April 1930, W J Craven & Co Ltd, 48 & 50 Port Street, Evesham. Tree bands.

GB382012A dated 20 October 1932. W J Craven & Co Ltd, 48 & 50 Port Street, Evesham. Patent for a powder blower.

Products

Advertisements appear in the Evesham Standard and West Midland Observer from 21 July 1917 for a wide range of agricultural chemicals including TAKITAK a banding material which did not dry out. Adverts for the same products continue to appear until 1954.

A 1935 Catalogue lists the BELUMITE, CRAVEN, HYDRAULUX, and TORNADO. The *Fruit Grower* in 1936 lists the BELUMITE as a backpack sprayer; the TORNADO POWER and MARVIL as powered powder blowers; EARLY BIRD, TORNADO MINOR, FERRET as shaker bellows; the DRIFTA, WHIRLWIND and MIDET as operator carried. Little is known about many of these products and the majority are outside the scope of this publication.

The first advertisements in the Evesham Standard for sprayers do not appear until 1949. The latest advertisement for sprayers is in 1957 for the HYDRAULUX and TORNADO. In 1959 they were advertising talks on pesticides with no mention of the sprayers and the final mention found in newspapers is on 20 May 1960.

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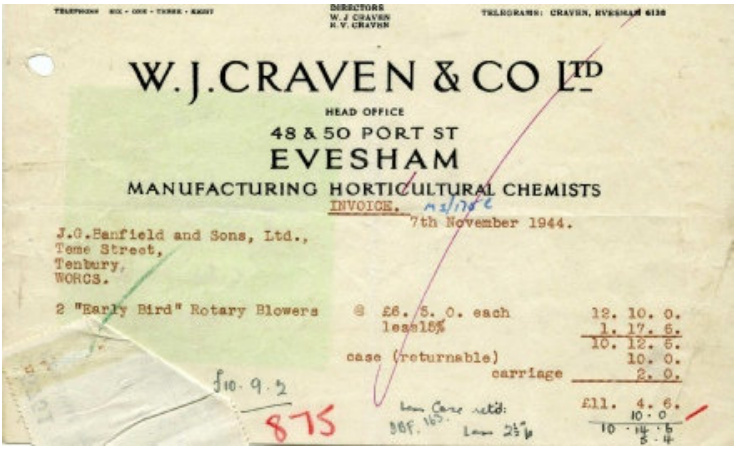
W J Craven & Co Ltd



TELEPHONE: SIX - ONE - THREE - EIGHT

DIRECTORS
W. J. CRAVEN
R. V. CRAVEN

TELEGRAMS: CRAVEN, EVESHAM 6138

W. J. CRAVEN & CO LTD

HEAD OFFICE
48 & 50 PORT ST
EVESHAM
MANUFACTURING HORTICULTURAL CHEMISTS

INVOICE. M3/175 C

7th November 1944.

J.G.Banfield and Sons, Ltd.,
Teme Street,
Tenbury,
WORCS.

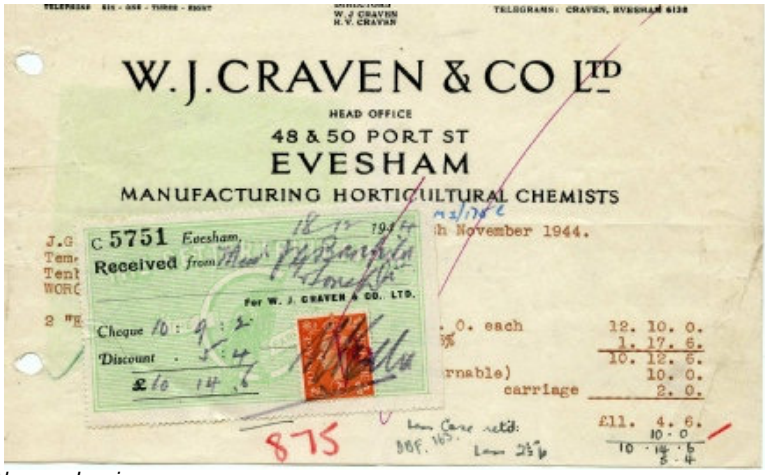
2 "Early Bird" Rotary Blowers @ £6. 5. 0. each		12. 10. 0.
	less 15%	1. 17. 6.
		10. 12. 6.
	case (returnable)	10. 0.
	carriage	2. 0.
		£11. 4. 6.
		10 · 0
		10 · 14 · 6
		5 · 4

£10. 9. 2

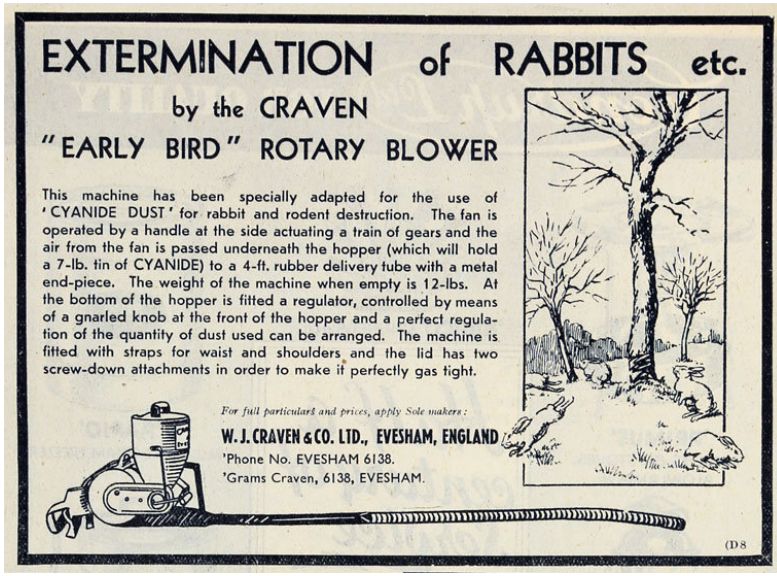
875

Less Case retd:
DBF. 165.
Less 2½%

W J Craven & Co Ltd



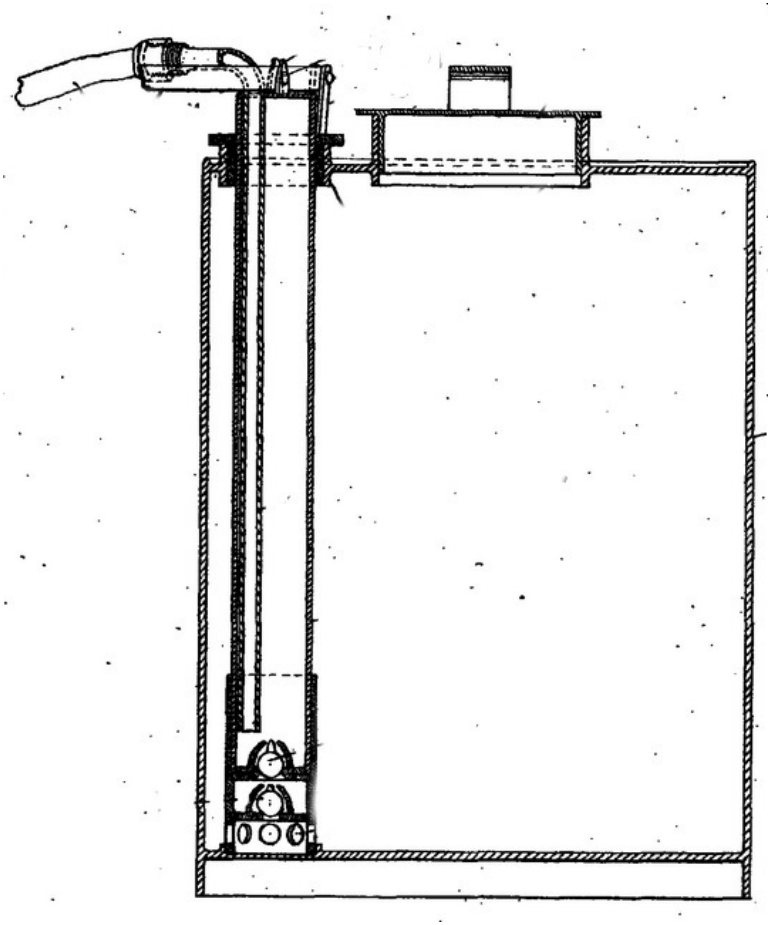
Above :- Invoices



Above :- Advertisement 1939. Early Bird rotary blower for killing rabbits using cyanogas (from Grace's Guide to British Industrial History).

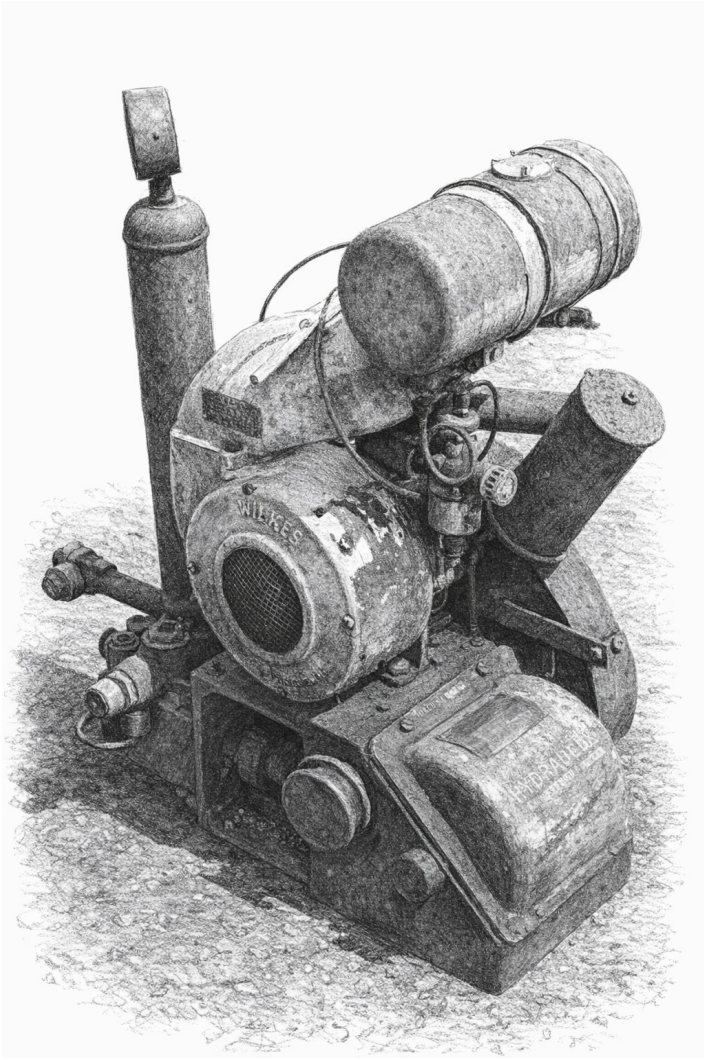
W J Craven & Co Ltd

Below :- Drawing of patent GB124021A. This is based on a common pump similar to the type used in stirrup and bucket pumps. This is mounted in a knapsack sprayer.



W J Craven & Co Ltd

Below :- Drawing of Hydraulux



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Chapter 13

Cromessol

Cromessol

The Cromessol Company was established in 1912 at 323 Paisley Road West, Glasgow. By 1933 they had moved to 144 Brand Street, Ibrox, Glasgow. The air deodorising and air freshener were some of the company's best sellers. However, they also produced a range of disinfectants and insecticides. In 1933 the company became Cromessol Company Ltd.

Cromessol moved premised to Castlemilk, Glasgow in the early 1970's where all products were manufactured on site. In 2021 the company was part of Wallace Cameron International.

Patents

GB614859A·dated 23 December 1948 by Nickel Crombie at 140-148 Brand Street Glasgow. For a bottle which can be more securely held. Implemented in the spray bottle shown below.

GB615696A·dated 10 January 1949 by Nickel Crombie at 140-148 Brand Street Glasgow. For the loop in the pump barrel as implemented in the spray bottle shown below.

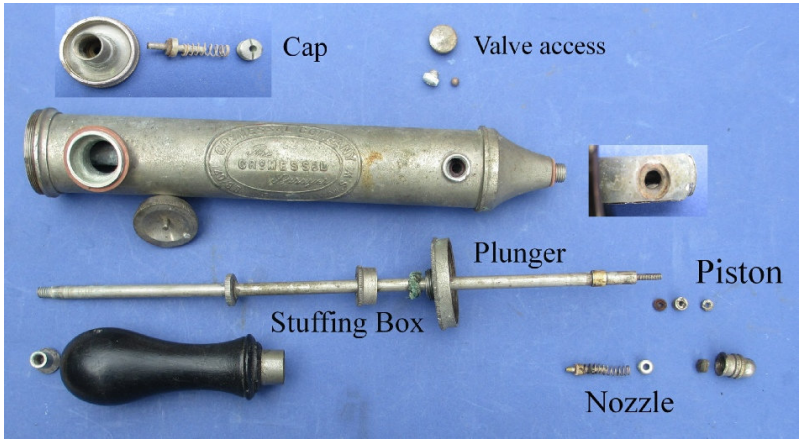
GB615383A dated 5 January 1949 by Nickel Crombie at 140-148 Brand Street Glasgow is for improvements to a pneumatic sprayer which is implemented in the Cromessol pneumatic sprayer. The patent specifies that the nozzle is of the type specified in patent GB510673A dated 4 August 1939 by Nickel Crombie.

Sprayers

All the early advertising is for the spraying kit. This consisted of a glass bottle with a chrome plated pump. The early versions of the pump had a circular loop. A finger was placed through this to use the pump. In the early version a plain bottle was used. Patents of 1948/49 introduce a bottle which had grooves which made it easier to hold and also an oval loop. This loop was designed to be held with the thumb and forefinger. The nickel-plated vaporisers seem to have appeared about 1930 and the nickel-plated pneumatic sprayer in 1939. While primarily intended for spraying indoors the sprayers could also be used for horticultural and other purposes where a fine mist was required. Vaporisers were widely used in places such as cinemas, theatres, hotels, public institutions and the home. Their use declined following the introduction of aerosols into the home.

Cromessol

Below :- [262] {2} Cromessol vaporiser.



Above:- [571] {2} A deconstructed Cromessol vaporiser. Barrel length 10 inches with a capacity of a ½ pint. The barrel has an inner tube running down the centre (the inner barrel). The space around the inner barrel forms the reservoir into which liquid is poured via the large inlet (left). This has a cap with a spring loaded vent held in place by a nut. There is a stuffing box. The piston in this example appears to be a small fibre washer, but on other sprayers of this type investigated the plunger appears to be two small back-to-back cup washers. The plunger rod/piston fits into the inner barrel. The inner barrel has an inlet valve controlled by a brass ball. This can be accessed via a small cap near the front of the sprayer. There is a front spring loaded valve behind the nozzle. The nozzle is provided with a screw in jet plug. The barrel end cap is soldered into place so the user cannot access the plunger. Vaporisers are designed to spray very fine droplets in small quantities.

On pulling back the plunger the inlet valve opens allowing liquid to be sucked from the outer barrel into the inner barrel. During this operation the front valve is closed and the air vent allows air into the outer barrel to replace the liquid being moved into the inner barrel. On the push stroke the inlet valve closes and the from valve opens allowing liquid to be sprayed through the nozzle.

Cromessol

Below :- [860] {3} Cromessol High Pressure Spraying Outfit. From 1948.

REFILLS

(Lavender, Rose, Carnation, Cologne, Violet or Standard)

CONCENTRATE 5/9 & 10/6
(Double Strength)
EASY FILL PACK 3/6

Available from all Chemists and Stores, or direct with no extra charge for postage from:—

CROMESSOL CO LIMITED

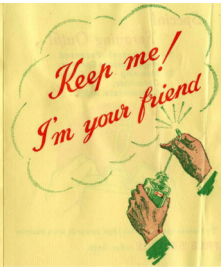
Makers of Quality Disinfectants since 1912

130-144 BRAND STREET, IBROX
GLASGOW, S.W.1

Phone 2302-2303 Ibrox
Telegrams and Cables : "Cromessol, Glasgow"

LIFETIME GUARANTEE AND WASHER REPLACEMENT SERVICE

The Cromessol Company is at all times prepared to renew the washers, adjust and clean Cromessol Sprayers free, PROVIDED CROMESSOL ONLY HAS BEEN USED. This guarantee, of course, does not cover the glass container. Sprayers for service should be returned (without container) with owner's name and address and 6d. in stamps to cover the cost of return packing and postage. In the case of Sprayers sent without postage, it will be presumed that they will be called for at our factory.



Special
Spraying Outfit

1—Cromessol Patented High Pressure Sprayer.
2—Non-slip Grip Glass Container.
3—Concentrate Refill.

To release sprayer press clips upwards with thumbs

FREE SERVICE—See back

ADJUSTING FOR WEAR

Should spray essence find its way up between rod (R) and nozzle (N), washers (W) require tightening. To dismantle sprayer for this purpose take hold of top (T) between forefinger and thumb of right hand and grip barrel (B) between finger and thumb of left hand. Top (T) will come away from barrel (B) and rod (R) can be withdrawn, taking care not to allow ball (O) to escape. Clean rod, using pliers and remove by unscrewing. Screw down nut below valve on washers (W) and under pressure they will expand and again fit barrel (B) tightly. When right, screw top (T) back, with valve (V) down on nut. Put a little butter or lard on the washers, this will keep them soft. Reassemble the parts as formerly and you should be found to give perfect satisfaction.

DIRECTIONS FOR CLEANING

(If Sprayer should become choked)

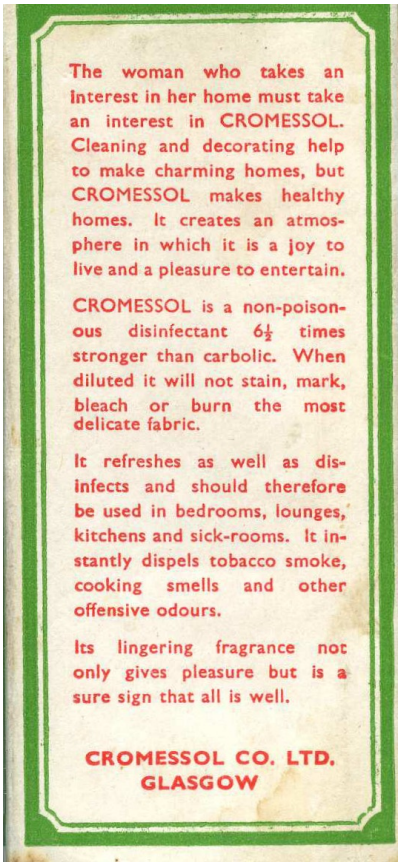
Remove nozzle (N) from end of sprayer (S) by unscrewing (with pliers if necessary). Unscrew plug (P) from nozzle (N) by gripping with pliers the small rod protruding. Clean groove on side of plug (P) with stiff nail-brush. Clean nozzle (N) and remove any obstruction inside same with a piece of cotton wool on end of wire or with corner of a duster. Wash all parts thoroughly and replace in original position.

Cromessol

Make home sweet home with —
INFECTION & STUFFINESS
INFECTION & BAD ODOURS
GERM LADEN AIR
FLIES & COOKING SMELLS
CROMESSOL
The woman who takes an interest in her home must take an interest in Cromessol, the fragrant disinfectant. Cleaning and decorating help to make charming homes, but Cromessol makes healthy homes. In addition it creates an atmosphere in which it is a joy to live and a pleasure to entertain. Cromessol embodies essential oils, isolates chosen for their high antiseptic value, various other chemicals and formaldehyde, one of the most powerful deodorisers and germicides known to modern science. By its use a fresh and healthy atmosphere can be enjoyed even on the closest day, and the lingering fragrance not only gives pleasure but is a sure sign that all is well.
USES.—In the sitting-room, Cromessol is not only useful as a disinfectant but destroys the stale smell of tobacco, clearing the smoke from the room. Bedrooms should be sprayed regularly. No longer have the children to catch cold because Father has caught cold, as a disinfectant Cromessol prevents this. The bathroom with its many drains, the breeding place of germs and bad odours, requires Cromessol constantly. Finally, Cromessol has no rival in the sick-room. It thoroughly disinfects, clears the atmosphere, and leaves behind a pleasing fragrance so different from the ordinary disinfectant.
Cromessol Concentrate is 6¼ times as strong as Standard Carbolic Acid and should be diluted one part with eighty parts of water before being sprayed. Cromessol is perfectly safe in use. It is not poisonous and it will neither stain nor bleach the most delicate fabric.
THE CROMESSOL PATENTED HIGH PRESSURE SPRAYER is modern and highly efficient. It should not be confused with cheap atomisers. Of sound British workmanship throughout, it has been specially constructed to give years of satisfaction. The skilfully designed nozzle produces a fine penetrating mist which carries easily from ten to twelve feet, reaching all inaccessible corners and crevices where germs may lurk.
LIFETIME GUARANTEE AND WASHER REPLACEMENT SERVICE.—The Cromessol Company is at all times prepared to renew the washers, adjust and clean Cromessol Sprayers free, PROVIDED CROMESSOL ONLY HAS BEEN USED. This guarantee, of course, does not cover the glass container. Sprayers for service should be returned (without container) with owner's name and address and 6d. in stamps to cover the cost of return packing and postage. In the case of Sprayers sent without postage it will be presumed that they will be called for at our factory.
SPECIAL OUTFIT 17/6
consisting of patented Cromessol high-pressure sprayer, non-slip grip glass container and refill sufficient to fill container many times and provide for the average housewife approximately four months' supply.
REFILLS
CONCENTRATE 5/9 & 10/6
(Double Strength)
EASY FILL PACK 3/6
LAVENDER, ROSE
CARNATION, COLOGNE
VIOLET or STANDARD
ENTIRELY BRITISH
CAN BE OBTAINED FROM ALL CHEMISTS, LARGE DRUG STORES OR DIRECT, POST FREE, FROM :—
CROMESSOL COMPANY LTD.
MAKERS OF QUALITY DISINFECTANTS SINCE 1912
TELEPHONES Ibrox 2302-2303
TELEGRAMS "Cromessol, Glasgow
130-144 BRAND STREET, IBROX, GLASGOW, S.W.1

Cromessol

Right :- The nickel-plated pump has a barrel and what, is in effect, a hollow piston rod with a spray nozzle on the top. The coiled part of the piston rod is used as a handle to move the rod up and down within the barrel. There are two ball valves. One at the bottom of the barrel and another at the end of the piston rod. It would only spray on the down stroke. A cork stopper seals the bottle and holds the pump in place. The sprayer is filled by removing the cork and pump assembly.



The woman who takes an interest in her home must take an interest in CROMESSOL. Cleaning and decorating help to make charming homes, but CROMESSOL makes healthy homes. It creates an atmosphere in which it is a joy to live and a pleasure to entertain.

CROMESSOL is a non-poisonous disinfectant 6½ times stronger than carbolic. When diluted it will not stain, mark, bleach or burn the most delicate fabric.

It refreshes as well as disinfects and should therefore be used in bedrooms, lounges, kitchens and sick-rooms. It instantly dispels tobacco smoke, cooking smells and other offensive odours.

Its lingering fragrance not only gives pleasure but is a sure sign that all is well.

CROMESSOL CO. LTD.
GLASGOW

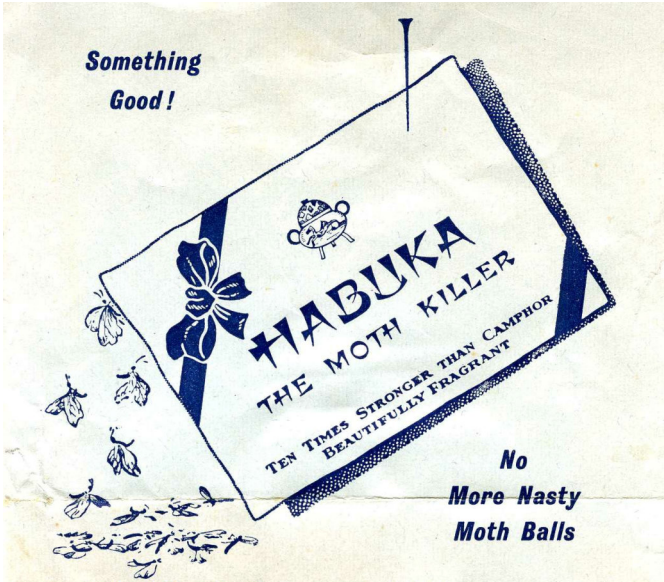
Left :- Back of box. See next page for sides of box and other leaflets within the box.

Cromessol

The best results are obtained with a CROMESSOL sprayer, which is of patented design and gives an especially fine diffusion capable of reducing the dust in a normal atmosphere by 75%. Can also be used on air purifier pads full strength or on cotton wool exposed to air.
CROMESSOL disinfectant is packed in the following fragrances:—Cologne, Carnation Lavender, Rose, Violet and Standard.

LIFETIME GUARANTEE AND WASHER REPLACEMENT SERVICE—The Cromessol Company is at all times prepared to renew the washers, adjust and clean CROMESSOL Sprayers free, PROVIDED CROMESSOL ONLY HAS BEEN USED. Sprayers for service should be returned (without glass container) with owner's name and address and 5d. in stamps to cover postage and packing.

Cromessol



This delicately fragrant moth killer is the delight of all housewives.

Tests showed that moths brought into contact with same were destroyed in 90 seconds.

It is a pleasure to use. Pin it up inside your wardrobe or piano. Put it in your blanket box or linen chest. It is an excellent deodorant.

Lasts a season.

9D Each

Can be had from all chemists and stores or direct, post free, from:—

CROMESSOL COMPANY LTD.

Makers of Quality Insecticides since 1912

130-144 BRAND STREET, IBROX, GLASGOW, S.W.1

Phone: IBROX 2302/3 **Telegrams & Cables: "CROMESSOL, GLASGOW"**

Cromessol

Below :- Cromessol High Pressure Spraying Outfit. Early version to 1948. From Grace's Guide to British Industrial History,

Cromessol Ltd

Below :- [705] *{2} Nickel-plated Cromessol pneumatic sprayer. Container height 7 inches. Pump barrel diameter 1 inch.*

Cromessol Ltd

Above :- Plate from Cromessol pneumatic sprayer.

Above :- Valve from Cromessol pneumatic sprayer. Spring loaded with rubber washer.

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Chapter 14

Crossland & Wood Ltd

Crossland & Woodland Ltd

Crossland & Wood Ltd - Citadel Works, Legge Street, Birmingham 4 (1940). In 1946 Cartbridge Lane, Walsall Staffs.

Brand name - CITADEL.

The company was started by Raymond Wood and Albert George Crossland in June 1940 (*1940a*). They have a patent (GB600898A dated 21 April 1948) for a nozzle which can give a discharge of three different types depending on how the sprayer is held. The slogan for this nozzle was “JET, ROSE or MIST at a turn of the wrist”. They also produce a number of other types of sprayer, including basic syringes, a pneumatic sprayer and two types of self supplying sprayer.

In 1951 they become a subsidiary of R. & A.G. Crossland Ltd but still trading as Crossland and Wood Ltd *(1952a)*. In 1955 Crossland and Wood was absorbed into the parent company *(1955a)*. Sprayers were probably produced until the early 1960s.

Above :- [084 and 397] {3} CITADEL three way syringe sprayer. Barrel length 20 inches and diameter 1¼ inches. Fitted with a Purser type drip preventing sleeve 8 inches long. Piston rod is solid brass $^{5}/_{16}$ inch in diameter. Piston is a back-to- back leather cup washers. Nozzle is the patent three way type. Fitted with a stuffing box.

Above :- [794] {4} CITADEL three way syringe sprayer. Barrel length 18 inches and diameter 1 $^{5}/_{16}$ inches. Piston rod is solid brass $^{5}/_{16}$ inch in diameter. The original piston was back-to-back leather cup washers, but now fitted with a replacement. Nozzle is the patent three way type. Fitted with a stuffing box.

Crossland & Woodland Ltd

Above :- [321] {3} CITADEL syringe. Barrel length 16 inches and diameter ⅞ inch. Piston is back-to-back leather cup washers on a solid brass piston rod $^{5}/_{16}$ inch in diameter. It has a fixed spray head and bend with a separate fast-fill valve controlled by a ball. CITADEL embossed on the nozzle. Nozzle and fast-fill valve can be changed around to change the angle of the spray. No collar.

Above :- [609] {3} CITADEL syringe. Barrel length 16 inches and diameter ⅞ inch. Piston is back-to-back leather cup washers. It has a fixed spray head and bend with a separate fast-fill valve controlled by a ball. CITADEL embossed on the nozzle. Nozzle and fast-fill valve can be changed around to change the angle of the spray. It has exchangeable nozzles and holders on the barrel for those not in use. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Barrel end caps screws directly onto an external thread on the barrel.

Above :- [970] {3} CITADEL syringe. Barrel length 16 inches and diameter ⅞ inch. Piston is back-to-back leather cup washers. It has a fixed head and bend with a separate fast-fill valve controlled by a ball crimped in place. CITADEL embossed on the nozzle. Provided with a rose nozzle and fast-fill valve which can be changed around to change the angle of the spray. Holders on the barrel are missing and probably were for two spray nozzles. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Barrel end caps screws directly onto an external thread on the barrel. The same as [609] above but with a rose head for nozzle.

Crossland & Woodland Ltd

Self Supplying Sprayers

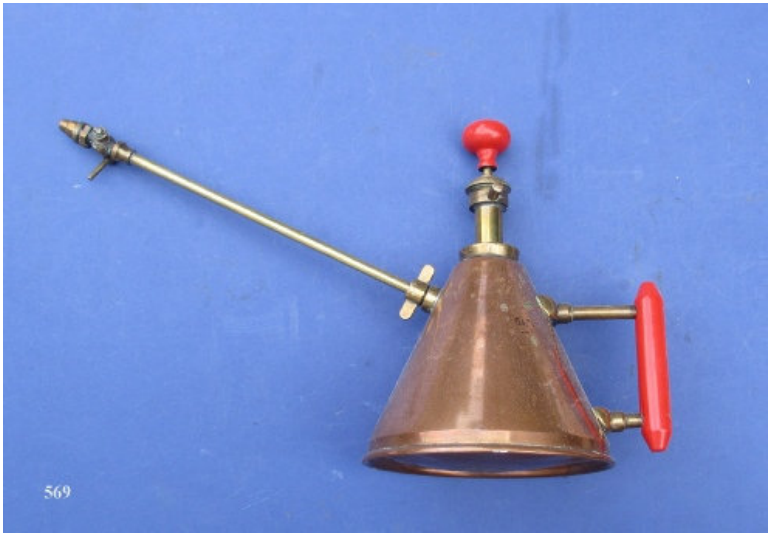
Above :- [150] {3} CITADEL self supplying sprayer. Barrel length 12 inches and diameter 1 inch. Single action with ball controlled valve on piston. Ball is held in place with a split pin. Single forward facing leather cup washer. Spray and jet nozzles with holder for nozzle not in use. Small plate with CITADEL on the barrel. Hose and strainer are missing. No front valve. This is probably missing and would have been a ball valve. Missing hose and strainer.

Above :- [617] {4} CITADEL self supplying sprayer. Barrel length 12 inches and diameter 1 inch. A very unusual sprayer with the supply through a hollow piston rod with a hose (missing) connecting to the end of the handle. According to the plate this sprayer should have had a three way head, but this is also missing. This could only work with the supply through the piston rod as this allows the whole barrel to turn to select the nozzle in use. The sprayer is single action spraying only on the push stroke. It has a front ball valve. The piston valve is also a ball held in with a split pin. The strainer may have had a valve.

Above :- [617] The plate from the above self supplying sprayer.

Crossland & Woodland Ltd

Small Pneumatic 100



Above :- [569] {3} CITADEL Cat No. 100 pneumatic sprayer. Registered design 844445. Capacity 1 pint. Dating from late 1950s to early 1960s. Plastic handles. Piston is a single forward facing leather cup washer. Spray nozzle.

Below :- Pump valve

Crossland & Woodland Ltd

Newspapers and References

1940(a) Birmingham Daily Gazette - Wednesday 05 June 1940.
Crossland and Wood Ltd., Citadel Works. Legge-street, Birmingham, to carry on the business of manufacturers of sprayer's, spraying machines, brassfounders, etc. Capital £2.000. A. G. Crossland, of 57. Philip Victor-road, Handsworth, signs as director.
1952(a) Birmingham Daily Gazette - Thursday 12 June 1952.
Report on the acquisition by R. and A. G. Crossland Ltd of Crossland & Wood Ltd and other companies.
1955(a) Birmingham Daily Gazette - Wednesday 25 May 1955.
Report that Crossland & Wood Ltd is being absorbed into parent company. Also that the factory is to be extended.
1961(a) Walsall Observer - Friday 06 October 1961. Fire damages factory roof. A roof fire at the factory of Wood Crossland and Wood Ltd., in Cartbridge Lane, Walsall, was extinguished by Walsall firemen on Monday evening. Workers at the factory tackled the fire with a length of rubber tubing connected to a water tap The fire, caused by the heat from a furnace flue, destroyed 6 sq. ft. of corrugated thermo-setting plastic roofing sheet.

Crossland & Woodland Ltd

1946 Advertisement

CROSSLAND & WOOD LTD

MANUFACTURERS OF ALL TYPES OF SYRINGES

AND SPRAYERS, LIME WASHING AND SPRAYING MACHINES

CARTBRIDGE LANE • WALSALL • STAFFS

Telephone : WALSALL 6001/2/3/4 *Telegrams* : CROSSLANDS WALSALL

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Chapter 15

Drake & Fletcher Ltd

Drake & Fletcher Ltd

Drake & Fletcher Ltd - Maidstone, Kent,

Brand - MISTIFIER - Used on a number of sprayers.
Models -ARMADA (Dust gun).

The firm began business, c.1882, as Drake & Muirhead, concerned with the repair of light domestic appliances such as sewing machines, but in the 1890's branched out into hop spraying machinery, and thereafter concentrated on spraying machinery as its principal item of manufacture. In 1890 the concern was re-christened the Kentish Engineering Works and became Drake & Fletcher in 1898. The limited company was formed in the mid 1920s and from 1958 onwards the firm held the Royal Warrant. Sprayers were still being sold into the mid 1970s. The company continued as a car dealership until 2010. As well as spraying machinery, the firm also dealt in oast house equipment and fruit and vegetable grading and packing machinery. The majority of their sprayers have a motor or are large agricultural sprayers, but they did manufacture manual powder blowers and also large pneumatic sprayers.

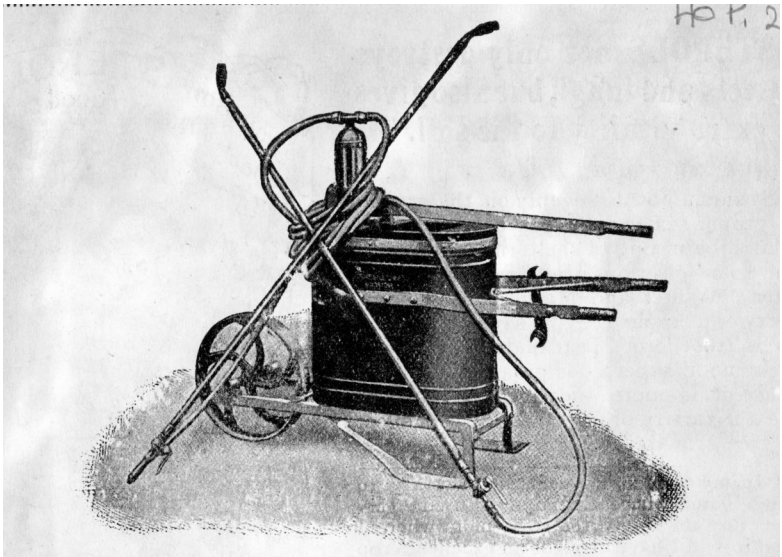
Below :- image from Grace's Guide to British Industrial History.

Right :- [773] Plate from MISTIFIER.

Drake & Fletcher Ltd

Below :- 1922 Advertisement in Fruit Farming by Cecil H Hooper

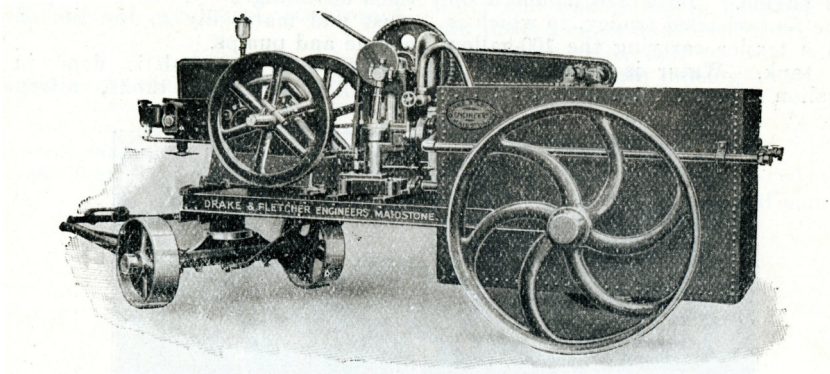
A manual machine using a force pump with output through an air chamber. Shown with light weight bamboo lances and a long hose.



F.W.O. TYPE MACHINE.

Specially narrow for use in Bush Fruit. Complete with two 20 ft. hoses, bamboo or brass branch pipes, taps and nozzles. 18 gallon capacity.

Below :- 1922 Advertisement for Power Sprayer Mark A.P.S.



A "Drake and Fletcher" Power Spraying Engine, Mark A.P.S. Completely Self-contained Engine, Pumps, Tank and Agitator.

Drake & Fletcher Ltd

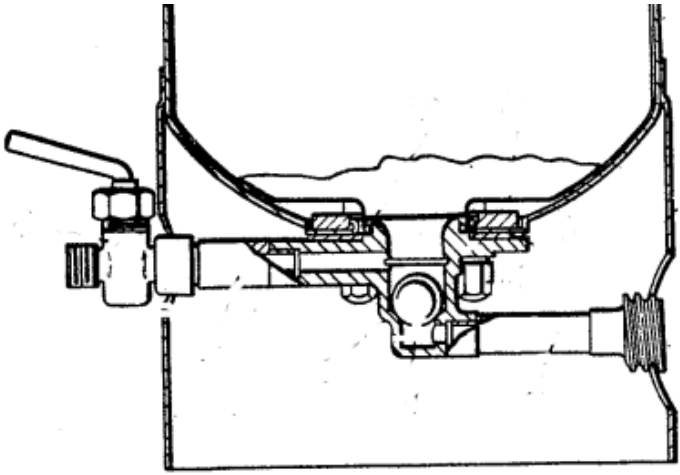
1970s Advertisement

There appear to be a number of sprayers based around the cylinder as illustrated in the above advertisement. They vary in size from those that could be carried as backpack to those requiring a trolley. Some came with their own pump and others were designed to be charged using a separate pump which could be engine driven.

There is a patent GB721397A dated 5 January 1955 by Geoffrey Fletcher for a version which is designed to have an internal flexible lining for use with corrosive chemicals, In the patent the containers incorporate an inlet and outlet. The output connects to a hose or lance and can have a tap. The inlet connects to the pump which is designed to charge the internal bag with liquid. There is a single valve inbuilt into the base of the sprayer below the bottom of the container. This opens under pressure as the container is being charged and is closed during use. The container also has a pressure gauge and a pressure release valve. The container is charged either with its built in pump or with a separate pump. Output from the pump connects to the sprayer through a pipe which leads to the inlet valve. Built in pumps appear to be force pumps with an inlet valve. The inlet hose is placed in the liquid and the pump used to fill the bag. This should pressurise the air in the container, but if this insufficient the patent indicates that it can be topped up using a tyre pump connected an air inlet at the top of the tank. The air pressure should be retained. even when the bag is emptied. Charging with an external pump would work in a similar way,

Drake & Fletcher Ltd

Below :- Crest and manufacturers label from the MISTIFIER Knapsack Sprayer and a large version of the sprayer with its own pump.



Above :- The valve mechanism from the patent. The outlet is on the left with a tap. The inlet on the right. The Inlet valve is controlled by a ball. The wavy line represents a bag of plastic or other suitable material to protect the container from corrosion. This would gradually expand to fill the container as liquid are pumped in.

Drake & Fletcher Ltd

Below :- [801] {3} MISTIFIER Knapsack Sprayer. Cylinder height (including base) 27 inches with a diameter of 8½ inches. Aluminium container with painted finish. Working capacity 4 gallons.

Drake & Fletcher Ltd

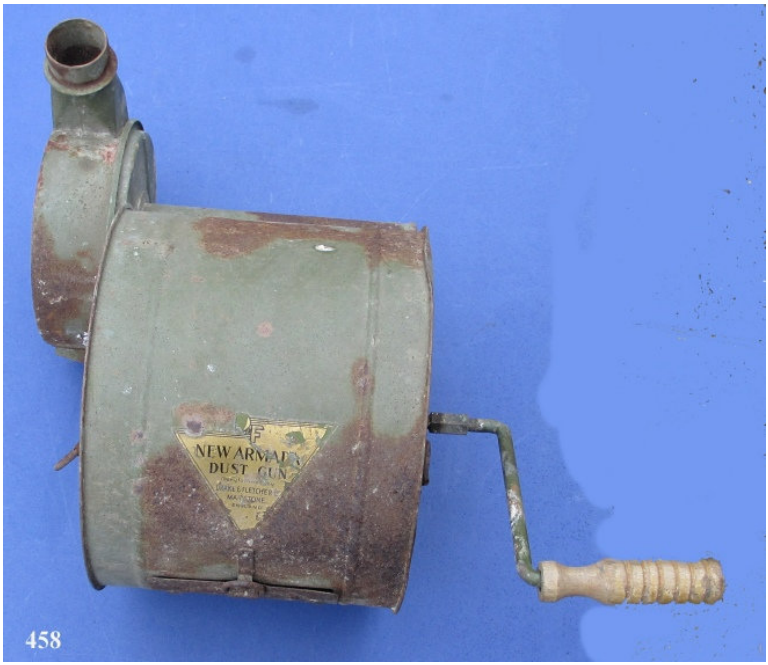
Below :- Rear view of sprayer showing straps. Also crest, manufacturers details and machine serial number.

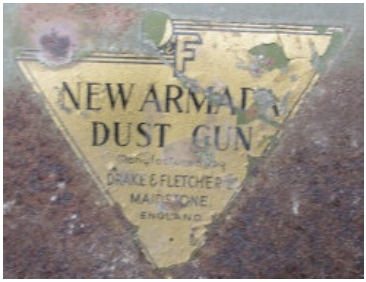
Drake & Fletcher Ltd

Below :- Left is the filter and internal bag support. This prevents the internal bag from completely collapsing. Right is the main valve unit which is controlled by a ball and prevents the discharge of liquid through the inlet when pumping stops. Below this is the filter inlet surrounded by the edge of the internal thick plastic bag.

Right :- The air inlet and relief valve. This inlet is used with an external air pump (tyre type pump) pressurise the air around the internal bag. A pressure gauge would fit on the top.

Drake & Fletcher Ltd





Above and Left :- [458] {3}. NEW AMADA dust gun. Turning the handle rotates the internal bar which stirs up the powder. Through a geared transmission it also turns the fan which blows the power through the nozzle. The sprayer would have been supplied with a hose, extensions tubes and a nozzle. There were leather straps which allowed the powder blower to be attached to front of the user so that the handle could be turned with one hand and the nozzle directed with the other.

Drake & Fletcher Ltd

Advertisement

BY APPOINTMENT TO HER MAJESTY QUEEN ELIZABETH II MANUFACTURERS OF AGRICULTURAL SPRAYING MACHINERY

SPRAY AN ACRE IN LESS THAN 45 MINUTES

THE MISTIFIER KNAPSACK

cuts spraying costs ★ cannot corrode ★ retains its pressure for months ★ can be filled in 90 seconds ★ empties itself completely ★ applies spray accurately

It has an internal synthetic rubber liquid container, remote on/off control, a constant-pressure control valve and an automatic relief valve.

Write for details and prices

DRAKE & FLETCHER LIMITED

MAIDSTONE, KENT

Phone 2284; 51996

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Chapter 16

Eclipse Sprayers

Eclipse

Eclipse Spraying Co - 1 Rawlings Road, Bearwood, Smethwick, England (1924). From 1991 at Beakes Road, Smethwick, Birmingham.

In 1924 Harry Mould and William Grimley founded the Eclipse Spraying Company. Then in 1928 Harry Mould left the company leaving William Grimley in charge. The company was incorporated in 1928. By 1935 the Eclipse Sprayers product range was expanding, with mobile limewashing & spraying equipment, bucket spray pumps and an anti-poultry disease flame thrower called the 'Dragon Flamethrower' all in production at the Birmingham factory.

During World War II the Eclipse No.1 Sprayer Outfit was contributed to the war effort and used as firefighting equipment during the catastrophic bomb raids throughout the UK.

In the summer of 1946 William Grimley died, leaving his two daughters Miss Hilda Grimley and Mrs Edna Collins to inherit the business. Eclipse Sprayers Company Limited received a certificate of incorporation to become Eclipse Sprayers Limited. In 1979 after 19 years of running the business Hilda and Edna were then joined by William Grimley's third and youngest daughter Mrs Lilian Arnold.

In 1972 Eclipse Sprayers Limited was sold to John Pennock from Albrighton, near Wolverhampton. Then in 1973 Eclipse Sprayers bought Fine as Rain from the Bulmer Family, it specialised in replacement watering can roses. John Pennock the eldest son of David Pennock joined the company. In 1982 Haws Watering Cans was purchased from the Elliott Group which combined with Fine as Rain to become the gardening division. In 2021 the parent company was Longitude Engineering Limited.

Eclipse Sprayers now produce a specialist range of products for the building preservation and pest control industry. The sprayers covered below were made between 1924 and 1970 before plastic became the norm.

Patents

GB218773A - dated 17 July 1924. William Grimley. Handheld sprayer.

Eclipse

GB221032A - dated 4 September 1924, William Grimley. Single action self-supplying sprayer with rear feed.
GB272147A - dated 9 June 1927. William Grimley. This is an implementation of a force pump with the output going into a separate chamber where it compresses air to give a continuous spray.
GB276583A - dated 1 September 1927. William Grimley. Multiple output. Adapter which allows multiple connection for output hoses.
GB309326A - dated 11 April 1929. William Grimley. Sprayer tap. Not granted.
GB309326A - dated 11 April 1929. William Grimley and Eclipse Sprayyng Co Ltd. Extension to lance.
GB310273A - dated 25 April 1929. William Grimley. Double action bucket pump. This is a fairly straightforward implementation of a double action common pump but with the ability to change the direction of the output
GB314177A - dated 27 June 1929. William Grimley. Double swivel nozzles.
GB366829A - dated 11 February 1932. Eclipse Spraying Co Ltd and William Grimley. An improved lever mechanism for mounted sprayers. This patent illustrates the use of a pump to charge a container with both air and liquid.
GB386084A- dated 12 January 1933, William Grimley. A method of mounting a pump on a barrow to allow it to be moved around.
GB409446A - dated 3 May 1934, William Grimley. Flow control in a hose attachment. Not a sprayer as such.
GB466832A - dated 7 June 1937. Eclipse Spraying Co Ltd and William Grimley. Flame gun.
GB485616A - dated 16 May 1938, Eclipse Spraying Co Ltd and William Grimley. Flame gun improvements.
GB688161A - dated 25 February 1953, Eclipse Spraying Co Ltd. Sprayer nozzle improvements.
GB689271A - dated 25 March1953, Eclipse Spraying Co Ltd. Sprayer nozzle.
GB700183A - dated 25 November 1953, Eclipse Spraying Co Ltd. Lever controlled sprayer nozzle.
GB703759A - dated 10 February 1954. Eclipse Spraying Co Ltd. Lever controlled sprayer nozzle improvements.
GB897825A - dated 30 May 1962. Eclipse Spraying Co Ltd. Improvements in releasing pressure for pneumatic sprayers.
GB898747A - dated 14 June 1962. Eclipse Spraying Co Ltd. Method of using air to agitate liquid in a pneumatic sprayer.

Eclipse

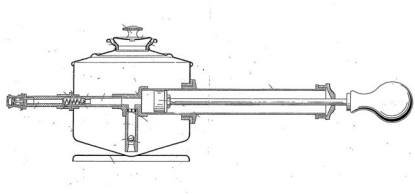
GB927692A - dated 6 June 1963. Eclipse Spraying Co Ltd. Collapsible bag used as supply container for a self-supplying sprayer.

Sprayers - Overview

Eclipse are best known for their self-supplying sprayers, but they manufactured bucket pumps, pneumatic sprayers and syringes.

Models and Rangers - ABBEY, DRAGON (flame gun), LEADER, LEADER JUNIOR, LITTLE WONDER, TRIUMPH, WARLEY.

Sprayer - Hand Held Pump



The first patent GB218773A dated 17 July 1924 is for a handheld sprayer with a pump built into a container which holds the liquid.

Handheld Self-supplying - Eclipse No. 1

These sprayers are single action self-supplying sprayers. The barrel end cap is always engraved ‘MADE IN ENGLAND’. All use a sliding valve in the piston, but the exact design of the valve varies. Similarly, all allow extensions and bends to be attached, but the fittings vary. Most have grips on the barrel, but these also vary and may not be present.

Nozzle Connection and Front Ball Valve

In the 1924 patent (GB221032A) there is a short extension to the barrel. This screws into the end of the barrel and can be removed, but a user would not normally do so because it holds in the ball for the front valve. The ball is prevented from moving into extension by a ‘U’ shaped fitting. On the end of the extension is a ⅜ inch male thread. Nozzles can be screwed directly onto this or ⅜ inch extensions or bends can used. This version is the one shown in the 1933 advertisement.

Eclipse

Another version works in a similar way, but the end of the short extension has a ½ male screw thread. A nozzle cannot be attached directly to this. A further extension needs to be attached first. The nozzle fits onto this. This may be an arrangement specifically designed for use with the double swivel nozzle.

In the third version the extension can be removed by the user to clean the valve. To prevent the loss of the ball from the front valve it is held in with an open screw. There is ⅜ inch male thread on the end of the extension onto which the nozzle or further ⅜ inch extension can be connected. This version is the most commonly found which suggests it is the latest version dating after 1947.

Grips

Most of the Eclipse No. 1 sprayers have a grip on the barrel. Normally at the front of the barrel, but sometimes in the middle. They are made of celluloid over a thick cardboard like material.

Left :- The early versions have a diamond shaped pattern.

Left :- This version retains the diamond pattern, but is more shaped.

Left :- This version has chevron type pattern with horizontal grooves to aid grip.

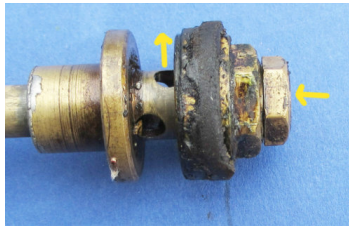
Left :- This version has a wavy line pattern. It is also embossed with the Eclipse logo and some of the patent numbers. This appears to replace the details on the metal plate.

Eclipse

Piston and Strainer

The piston valve is always a sliding type covered by patent GB221032A dated 4 September 1924, but the design varies. It is assumed that sprayers with the version described in the patent are older than those using the other approach. Hoses and strainers are often missing. Strainers would always have included a valve.

Left :- The patent version of the sliding piston valve. While the piston is being moved backwards liquid can flow through holes in the piston assembly. These are blocked when the piston is being pushed forward.



Left :- While the piston is being moved backwards liquid can flow through the hollow end of the piston rod and out through a hole in the rod. This hole is blocked when the piston moves forward.

Examples - Eclipse No. 1

Above :- [587] {3} An early version of the Eclipse sprayer with the valve on the piston as specified in the patent. The ball for the front valve is held in by the short extension to the barrel. It doesn't have a grip. There are two manufacturer's plates. The hose shown is a replacement. It was provided with an extension, a bend, and spray and jet nozzle. Barrel length 12 inches and diameter 1 inch. Strainer with a ball valve.

Left :- The two plates on this sprayer.

Eclipse

Above :- [412] {2} LITTLE WONDER version of the Eclipse sprayer with the valve on the piston as specified in the patent. The ball for the front valve is held in by the short extension to the barrel. Grip without details or ridges. Extension, bend, spray nozzle and jet nozzle. Barrel length 12 inches and diameter 1 inch. Hose and strainer missing.

Left :- The LITTLE WONDER plate.

Above :- [304] {2} The ball for the front valve is held in by the short extension to the barrel. Grip without details or ridges. Extension and double spray nozzle. Barrel length 12 inches and diameter 1 inch. Piston valve of the later type. Jet nozzle on holder. Note that the nozzles are longer and a different shape than normal.

Above :- [303] {2} Eclipse No. 1 with later version of the piston valve. The ball for the front valve is held in by the short extension to the barrel. Extension, bend, spray nozzle and non clog limewashing nozzle. Barrel length 12 inches and diameter 1 inch.

Eclipse

Above :- [518] {2} Eclipse No. 1 with later version of the piston valve. The ball for the front valve is held in by the short extension to the barrel. Extension, rose and jet nozzle. Barrel length 12 inches and diameter 1 inch. Grip is an unusual shape.

Above :- [077] {2} Eclipse No. 1 with later version of the piston valve. The ball for the front valve is held in by an open screw. Short extension, adjustable spray nozzle and non clog limewashing nozzle. Barrel length 12 inches and diameter 1 inch. The grip is ridged. Plate reads :-

ECLIPSE No 1 SPRAYER
Patent
BRIT 221032
GER 963058 FRANCE 591290
U.S.A. 1653562
SOLE MAKER AND PATENTEE
THE ECLIPSE SPRAYING CO LTD
SMETHWICK ENGLAND

Above :- The piston valve.

Above :- Non clog nozzle for limewashing and creosoting.

Eclipse

Above :- [198] {2} Eclipse No. 1. The ball for the front valve is held in by an open screw. Short extension, spray nozzle and non clog lime washing nozzle. Barrel length 12 inches and diameter 1 inch. Missing hose and strainer. Gold lacquered finish. Grip is ridged.

Above :- [217] {2} Eclipse No. 1 The ball for the front valve is held in by an open screw. Short and long extensions. Non clog lime washing nozzle. Barrel length 12 inches and diameter 1 inch. Missing hose and strainer. Worn gold lacquered finish. Grip is ridged.

Above :- [586] {2} Eclipse No. 1 kit in wooden box. Believed to be late version. The ball for the front valve is held in by an open screw, Extension, bend, spray nozzle and jet nozzle. Barrel length 12 inches and diameter 1 inch. There is no manufacturer's plate and the sprayer details are on the grip. Plastic hose. Valve in the strainer.

Eclipse

Above :- [893] {2} Eclipse No. 1 Florist Outfit. Short and long extension. This kit is provided with two spray nozzles. Barrel length 12 inches and diameter 1 inch. Rubber hose and strainer. Strainer valve, piston valve of the sliding type, and front ball valve.

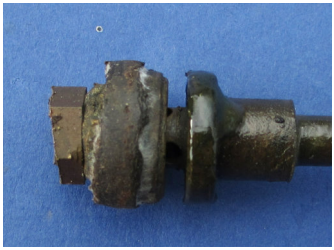
Left :- The sliding valve on the piston. Showing the single forward-facing leather cup washer.

Left :- The sprayer was supplied in a plain cardboard box with the label as shown. Price 79/6 at the time.

Below :- Tape from box indicating retailer. Parker, Winder & Achurch.

Eclipse

Handheld Self-supplying - Eclipse No. 2



Above :- [164] {2} Eclipse No 2 . The ball for the front valve is held in by the nozzle extension. Spray nozzle. Barrel length 16 inches and diameter 1¼ inches. Hose and strainer missing.

Sprayer - Eclipse Syringe (Simplicity)

Above : - [141] {4} Eclipse syringe sprayer. Based on a self-supplying which it superficially resembles. It has a fast-fill valve controlled by a ball. Nozzle is a spray. There is a holder on the barrel for alternative nozzle. Nozzle can be swivelled. Piston appears to be an adaptation of the eclipse sliding valve and only has a forward-facing cup washer. Barrel length 14 inches and diameter 1 inch. In the 1947 catalogue coming with an angle bend, insecticide nozzle, coarse spray nozzle and straight jet.

Left : - The nozzle head.

Right : - The inside of the nozzle head. The entry to the fast-fill valve on the right is controlled by a brass ball.

Left :- The piston with a single front facing cup washer held in place with a split pin.

Eclipse

Sprayer - Bucket Sprayers

The bucket sprayers all appear to be double acting sprayers based on the force pump with an air chambers at the top of the barrel. There is some variation in numbering and naming over time which probably reflects changes to models.

Left : - [942] {4} Pump from SUPER TRIUMPH bucket sprayer 5E. Barrel length 16 inches with a diameter of 1 inch. Air chamber at top of piston rod. This is 5 inches long and has a diameter of 1¼ inches. The air chamber will help even out the flow on both the push and pull strokes.

Piston valve is controlled by a ball. Foot valve is in the strainer and controlled by a ball.

Originally provided with a 4 gallon galvanised bucket, a 5ft hose, lance and tap. Advertised as coming with both a self cleaning limewashing nozzle and a spraying nozzles. A holder for the nozzle not in use is provided on the barrel.

Eclipse

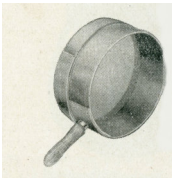
Left : - Bucket sprayer kit 6E. Galvanised bucket with 4 gallon capacity. Large air chamber at the top of the barrel. Supplied with a 6ft hose, tap and a lance with both a self cleaning limewashing nozzle and a spraying nozzle. A holder for the nozzle not in use is provided on the barrel. Cam with a separate sieve.

Below :- Air chamber from bucket sprayer 4E. Sprayer 4E was a bucket sprayer with a galvanised bucket. It seems similar to 6E with the large air chamber.

+

Left : - Bucket sprayer kit 7E. Galvanised bucket with 6 gallon capacity. Very large air chamber at the top of the barrel. Lever type handle. Supplied with a 6ft hose, tap and a lance with both a self cleaning limewashing nozzle and a spraying nozzle. A holder for the nozzle not in use is provided on the barrel. The sprayer came with a separate sieve. The output hose connection can swivel as covered in patent GB310273A - dated 25 April 1929.

The 1947 catalogue has a model 5 which is very similar to the 7E but with a different type of stainer.



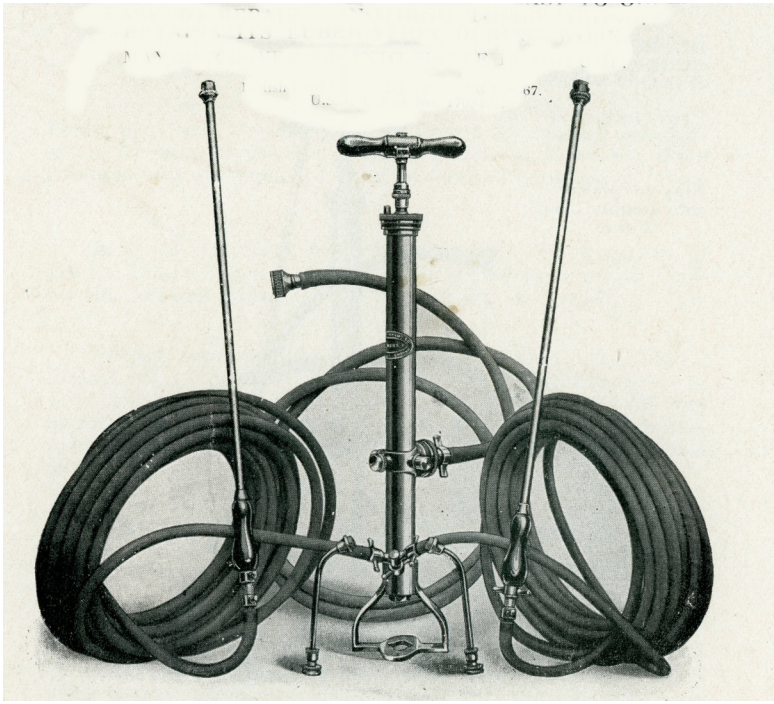
Eclipse

Above :- Eclipse bucket sprayer No. 4. Probably uses a similar pump to that described under [942] above. The air chamber seems to be larger and more like that used on models 6E and 7E. The galvanised bucket has a foot support.

Eclipse

Sprayer - Eclipse LEADER - Senior

Advertised as being ‘A Wonderful Revelation in Large Scale Spraying’ . Barrel diameter 1 ¾ inches. Based on patent GB272147A. The input is in the centre of the sprayer with two outputs at the bottom. output at the bottom. Internally the top part above the inlet formed the barrel in which the piston operated. There are two valves in the centre where the inlet hose connects. On the pull stoke liquid is sucked into the internal barrel from the source. On the push stroke this is transferred into the lower part of the sprayer where it compresses the air in the lower chamber. This pressurised air continues the discharge from the sprayer while the pull stroke is filling the barrel on the next cycle. One advantage of this approach is that both valves ae easily accessible for maintenance. The sprayer is designed to be kept upright which prevents loss of air pressure.



Eclipse

Sprayer - Eclipse LEADER - Junior

Advertised for limewashing, creosoting and general spraying. Based on patent GB272147A. The input is in the centre of the sprayer and the output at the bottom. Internally the top part above the inlet formed the barrel in which the piston operated. There are two valves in the centre where the inlet hose connects. On the pull stoke liquid is sucked into the internal barrel from the source. On the push stroke this is transferred into the lower part of the sprayer where it compresses the air in the lower chamber. This pressurised air continues the discharge from the sprayer while the pull stroke is filling the barrel on the next cycle. One advantage of this approach is that both valves ae easily accessible for maintenance. The sprayer is designed to be kept upright which prevents loss of air pressure.

Eclipse

Sprayer - Eclipse WARLEY

There are several versions of this sprayer. It appears to have been available in 1, 2 and 3 gallon sizes (working load). The design changed from the one with a riveted top to ones where it was soldered on. All WARLEY sprayers appear to be straightforward pneumatic sprayers. All with a pressure gauge, top filler and a tap on the outlet. Over time, there is also a change in the design of the pressure gauge. The manufacturers plate refers to patent 218773 and the equivalent German, French and USA versions. This patent refers to the sliding valve on the piston. For more information see the ABBEY pneumatic sprayer below. In 1954 in the Birmingham Daily Post - the sprayer is shown with a lance with an Eclipse lever control and is advertised for the spraying of root and bush crops. The last mention of the Warley I have seen is in 1958.

Below :- Later version of WARLEY sprayer.

Eclipse

Below :- Early WARLEY sprayer with riveted top, Capacity 3 gallons. Picture is with permission of Colonialsoldier.com.

Eclipse

Above :- Logo late from a late version of the WARLEY sprayer and plate from a WARLEY [558] Sprayer.

Right :- [937] {3} Very late version of the WARLEY (1960s). Container height (ignoring bottom section) 12 inches. Diameter 7 inches.

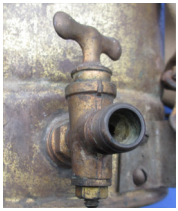
Air pump 10 inches in length with a diameter of 1½ inches. External spring on piston rod. Cup washer piston. There is a sliding valve on the piston (patent 218773). This is supplemented by a ball-controlled valve on the end of the pump barrel. Air pressure gauge. Separate filler. Web harness. Manufacturer's plate.

Below :- Some Eclipse pneumatic sprayers we provided with a tundish - a type of funnel.

Eclipse

Left :- Pump from [937].

Below :- Tap, piston and pressure gauge [937]



Sprayer - Eclipse ABBEY

The container is made of brass and painted. Different colours were available. Container working capacity ½ gallon. Some changes in later models.

Right :- [[473] {2}ABBEY sprayer based on patent GB221032A.

Eclipse

Left :- The piston from above ABBEY sprayer based on patent GB221032A. The piston is part of the air pump used to pressurise the air in the container. On the pull stroke of the piston, it is necessary to allow air into the barrel in front of the piston. In most air pumps no special provision is made for this and air is forced past the piston. In this piston the head is allowed to move a short way along the piston rod. On the pull stoke the piston head moves forward uncovering a hole which passes through a hollow portion of the piston rod. This allows air into the front of the pump barrel. This meant that less force is needed on the back stroke.

Left ;- The foot valve from the ABBEY sprayer. A well constructed spring loaded ball valve.

Left :- The container cap which incorporates a pressure relief valve.

Below :- The nozzle. Adjustable only by removing it as screwing the spray plug in/out.

Eclipse

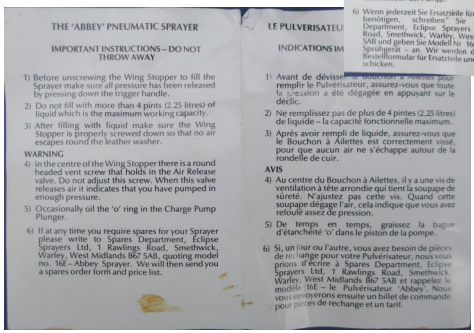
Below :- (964) ABBEY sprayer later version. Dates around 1990. More like Haws pneumatic than earlier ABBEY sprayers. Height 6 inches and diameter 6 inches. Working capacity 4 pints. Pressure release valve in filler cap. Similar in concept to the earlier version but with many differences, including the shape of the container, the handle, the release mechanism,, and the valves. This sprayer had not been used and came complete with a tundish (funnel/sieve) and an instruction booklet.

Eclipse

Below - The piston arrangement still allows air to move through it on the pull stroke. It uses a rubber 'O' ring to provide a seal. This moves back on the pull stroke to allow air to move through four holes in the piston head.

Right :- The valve arrangement.

Right :- The trigger control mechanism .



Eclipse

HAWS Pneumatic

The Haws pneumatic sprayer [472] {2} is similar to the ABBEY. It has a lever controlled tap of the 1953 patent design. The nozzle can be swivelled. Definitely produced by Eclipse after 1953 and probably after the takeover of Haws in 1983.

Eclipse

Left - Main valve. Held in by a split pin.

Right :- The holes in the end of the piston suggest that it is an implementation of the Eclipse sliding valve allowing air into the front of the pump barrel on the pull stroke.

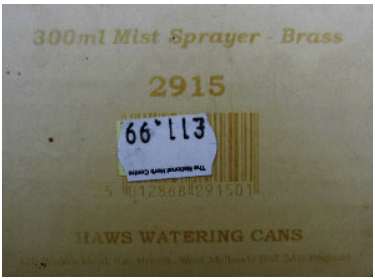
HAWS Mister

Above :- [579] {2} Haws mist sprayer in box. Capacity ½ pint. Container height approximately 3 inches. Purchased new in 2019. There is no mention on the sprayer of it being Haws.

Left :- The pump removed from the container. Far left is the piston assembly with a plastic piston. There is a plastic valve at the lower end of the barrel and also one built into the outlet tube. It is an implementation of a force pump. The nozzle is a fixed spray.

Eclipse

Left ;- The Decal and Haws plate from the sprayer.



Above :- Side and bottom of box for Haws mister.

Eclipse

Stirrup Pump

Left :- [831] {4} Eclipse stirrup pump. Barrel length 16 inches with a diameter of $1^{1}/_{16}$. inches. Hollow brass piston rod ¾ inch in diameter which acts as an air chamber. Back-to-back leather cup washer piston with a piston valve controlled by a ball. Strainer will a ball valve incorporated. Bulbous air chamber at top of barrel.

Hose Nozzle

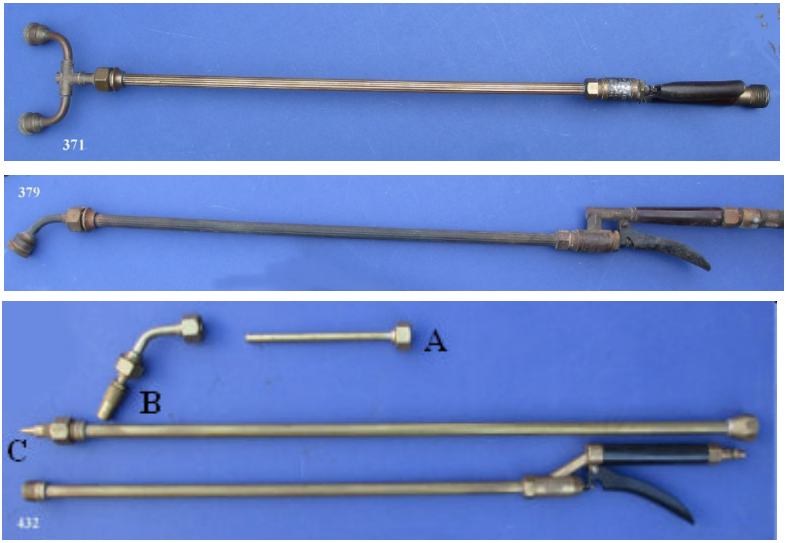
Above :- [494] {2} Often identified as a sprayer this is a hose nozzle. Turning the handle changes from a jet to a spray then off.

Eclipse

Bends and Lances and Nozzles

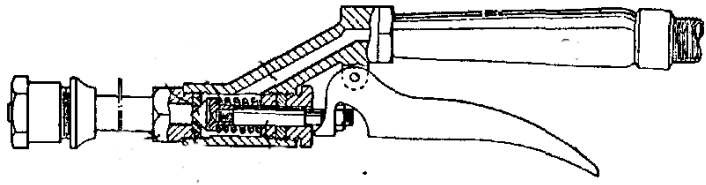
The bends and lances available with the Eclipse No. 1 and No. 2 sprayers are shown with the sprayers illustrated above.

Backpack and Bucket sprayers came with lances. Early lances were provided with ordinary taps. The patents for lever controlled taps are dated 1953/4. Care needs to be taken in dating sprayers based on the lance as these are often replacements.



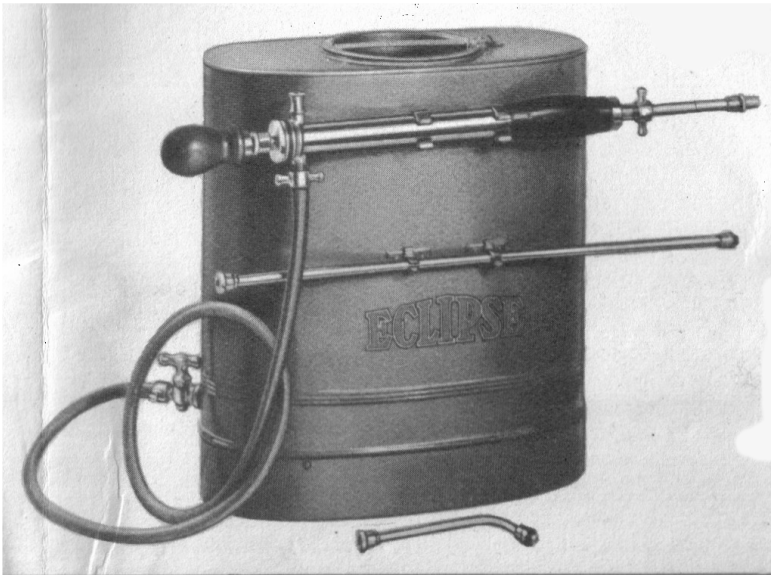
Above :- [371,379,432] Examples of relatively recent lances, These are for the larger sprayers not the Eclipse No1. and No. 2 sprayers. Certainly, dating post 1953, but possibly a much later. The bottom picture shows three nozzles. ***A*** *is a jet,* ***B*** *is an adjustable nozzle. and* ***C*** *a hole (woodworm) nozzle.*

Below :- The internal workings of the lever type control



Eclipse

Backpack Container



Above :- The Eclipse knapsack sprayer. This is a container which connects to an Eclipse No. 1 self-supplying sprayer. Definitely available post WW II, but probably before that. The main container was made of copper with a steel base.

Below : - [861] {3} A green painted version with a convex filler cap.

Eclipse

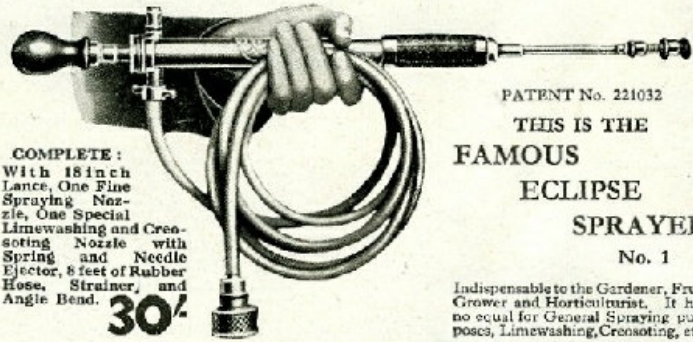
1933 Catalogue

ECLIPSE

SPRAYING MACHINES

BEST VALUE IN THE WORLD

Simple, Foolproof, Strong, Easy To Oil, Efficient, Enduring.



COMPLETE: With 18 inch Lance, One Fine Spraying Nozzle, One Special Limewashing and Creosoting Nozzle with Spring and Needle Ejector, 8 feet of Rubber Hose, Strainer, and Angle Bend. **30/-**

PATENT No. 221032

THIS IS THE FAMOUS ECLIPSE SPRAYER No. 1

Indispensable to the Gardener, Fruit Grower and Horticulturist. It has no equal for General Spraying purposes, Limewashing, Creosoting, etc.

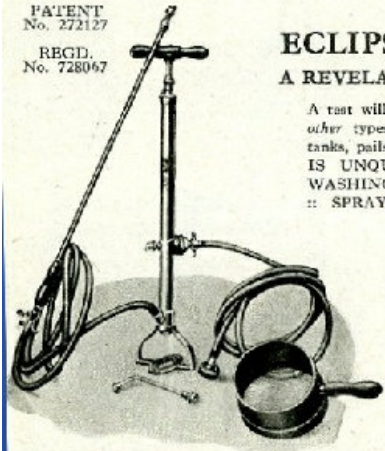
Low Costs and Modern Intensive Methods Mean Prosperity

ECLIPSE "LEADER" SPRAYING PUMPS

With Patent Oil Bath Lubrication—Have No Equal in the World

PATENT No. 272127

REGD. No. 728067



THIS IS THE NEW

ECLIPSE LEADER JUNIOR

A REVELATION IN SPRAYING EFFICIENCY

A test will demonstrate its many *advantages over all other* types of spraying machines fixed in buckets, tanks, pails, etc. The ECLIPSE LEADER JUNIOR IS UNQUESTIONABLY THE FINEST LIMEWASHING, CREOSOTING, AND GENERAL :: SPRAYING MACHINE YET INVENTED ::

Price: Complete as illustrated

£5-5-0

When buying—SEE THAT YOU GET A GENUINE "ECLIPSE."

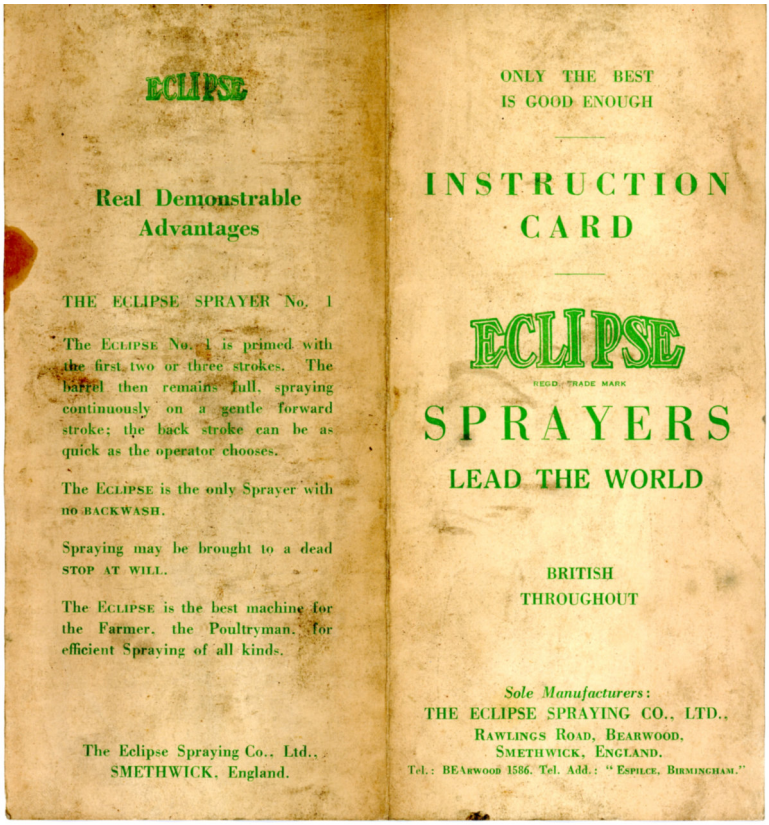
Write for Catalogue of other ECLIPSE SPRAYING OUTFITS

ECLIPSE SPRAYING CO., LTD.

BEARWOOD, SMETHWICK - - - ENGLAND

Eclipse

Instructions for Eclipse No. 1 Florist Kit.



ECLIPSE

Real Demonstrable Advantages

THE ECLIPSE SPRAYER No. 1

The ECLIPSE No. 1 is primed with the first two or three strokes. The barrel then remains full, spraying continuously on a gentle forward stroke; the back stroke can be as quick as the operator chooses.

The ECLIPSE is the only Sprayer with NO BACKWASH.

Spraying may be brought to a dead STOP AT WILL.

The ECLIPSE is the best machine for the Farmer, the Poultryman, for efficient Spraying of all kinds.

The Eclipse Spraying Co., Ltd.,
SMETHWICK, England.

ONLY THE BEST
IS GOOD ENOUGH

INSTRUCTION CARD

ECLIPSE
REGD. TRADE MARK

SPRAYERS
LEAD THE WORLD

BRITISH
THROUGHOUT

Sole Manufacturers:
THE ECLIPSE SPRAYING CO., LTD.,
RAWLINGS ROAD, BEARWOOD,
SMETHWICK, ENGLAND.
Tel.: BEARWOOD 1586. Tel. Add.: "ESPILCE, BIRMINGHAM."

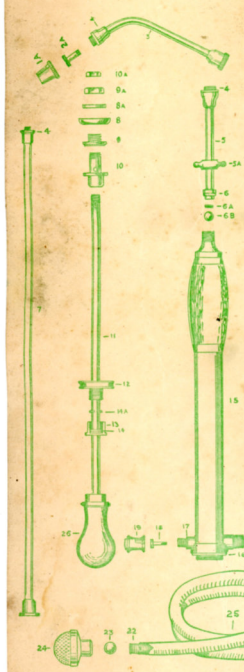
Eclipse

Instructions for Eclipse No. 1 Florist Kit.

IMPORTANT

DO NOT THROW THIS AWAY

ECLIPSE No. 1 FLORIST'S OUTFIT



Coarse Spray Nozzle:
1a Cap
2a Rotor
3 Angle Bend
4 Washer for Angle Bend, Lance and Spray Tube
5 Spray Tube
5a Swivel Cap
6 Washer for Swivel Seat
6a Slotted Bit for Tail Socket
6b Ball for Tail Socket
7 Extension Lance
Plunger Valve:
8 Valve Leather
8a Valve Brass Washer
9 Valve Base
9a Valve Nut
Plunger Valve Holder:
10 Valve Holder
10a Valve Holder Nut
11 Piston Rod
12 Top Cap
13 Suction Cap
14 Cork Washer for
14a Suction Cap
15 Pump Barrel
16 Barrel Washer
17 Nozzle Holder
Fine Spray Nozzle:
18 Rotor
19 Cap
20 Hose Cap and Liner
21 Washer for Lug Cap
Strainer Valve:
22 Liner
23 Ball
24 Strainer
25 Rubber Hose without fittings
26 Pump Handle

Instructions for Use

For Numbered Parts see Drawing

1 No great pressure is necessary to work this Machine; once primed, it will spray continuously for the full length of the forward stroke on the mere application of gentle pressure; the back stroke may be as quick as the operator chooses.

2 When using the Angle Bend (3) do not turn the Pump if you wish to change the direction of the spray because this would cause the hose to kink; to change direction, grasp the Spray Tube (5) and turn it in an anti-clockwise direction.

3 At all times, without fail, keep the Piston Rod (11) oiled.

4 Always draw clean water through Sprayer after using Limewash or Disinfectants.

5 Always, after use, unscrew Top Cap (12), draw piston rod out and oil Valve Leather (8) with good oil.

6 The Fine Spray Nozzle (18 and 19) on side holder (17) is the Nozzle for Insecticides and Fine Spraying.

7 Should the spray become ragged, sharpen a small piece of wood to a point as you would a lead pencil and bore with it into the small hole of Nozzle to clear passage.

8 Spraying can be stopped instantly by a sharp ½-in. pull back of the rod.

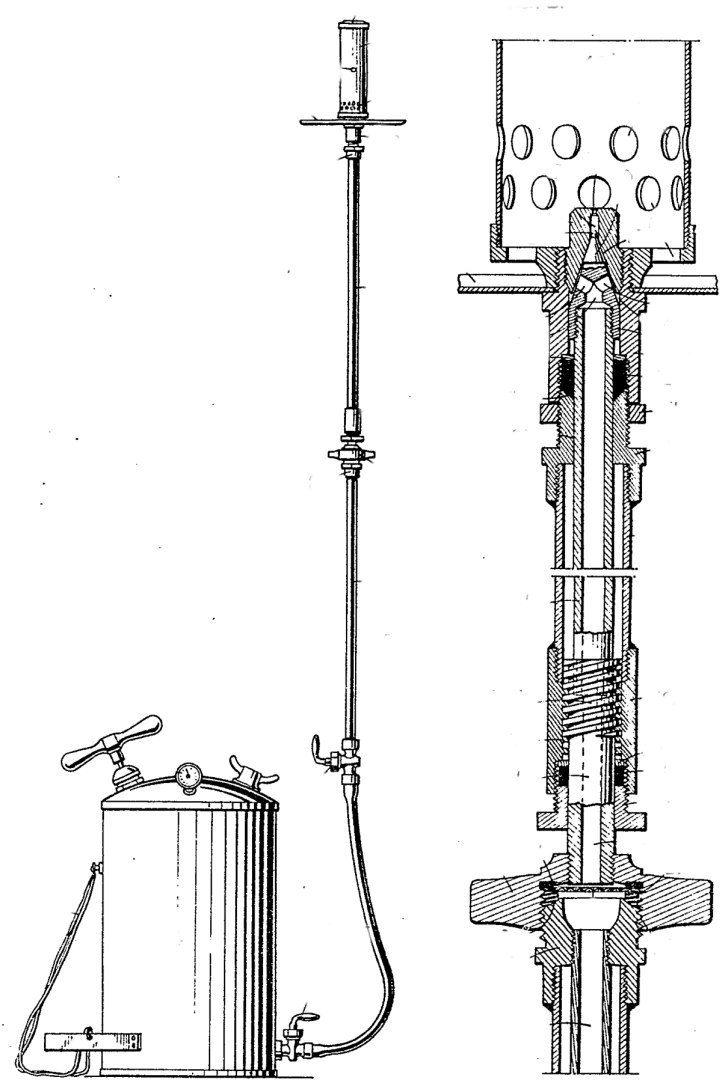
9 Always see that Lug Cap (20) is screwed up tightly on to Sprayer Barrel when in use.

10 Cork Washers (14) may be purchased for re-packing Suction Cap (13). To re-pack this Cap, slit cork washers (as 14a), place round Rod; push evenly into cap (13) and rescrew cap. The cap should not be screwed up too tightly, but just sufficiently to ensure perfect sealing of the Pump. The proper packing of this cap is most important, upon it depending the effective suction of the Sprayer.

The Eclipse Spraying Co., Ltd.,
SMETHWICK, England.

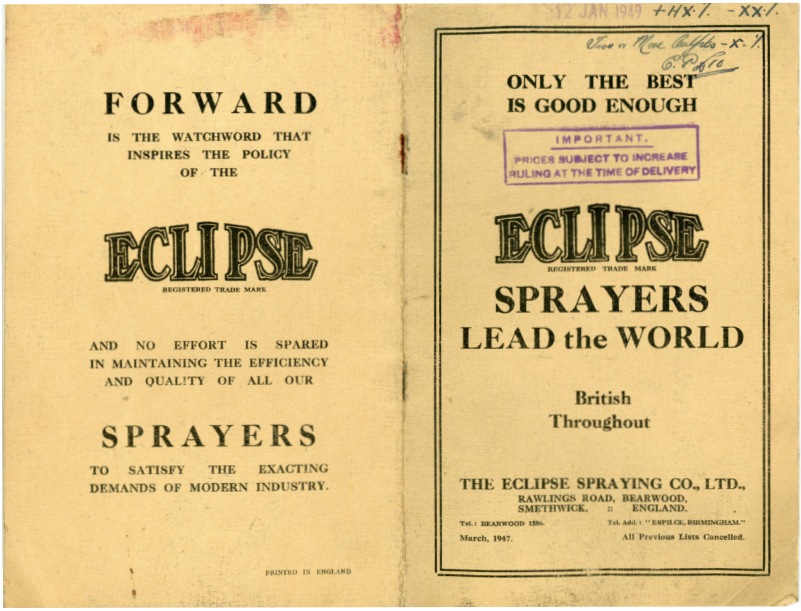
Eclipse

Eclipse Dragon Flame Thrower. This used paraffin supplied under pressure to a burner. Detailed investigation of this is outside the scope of this publication.



Eclipse

1947 Catalogue [E90]



FORWARD

IS THE WATCHWORD THAT INSPIRES THE POLICY OF THE

ECLIPSE

REGISTERED TRADE MARK

AND NO EFFORT IS SPARED IN MAINTAINING THE EFFICIENCY AND QUALITY OF ALL OUR

SPRAYERS

TO SATISFY THE EXACTING DEMANDS OF MODERN INDUSTRY.

PRINTED IN ENGLAND

12 JAN 1949 +HX.1. -XX.1.

Vide re Mod. Outfits -X.1.

C.D.2.10

ONLY THE BEST IS GOOD ENOUGH

IMPORTANT.
PRICES SUBJECT TO INCREASE RULING AT THE TIME OF DELIVERY

ECLIPSE

REGISTERED TRADE MARK

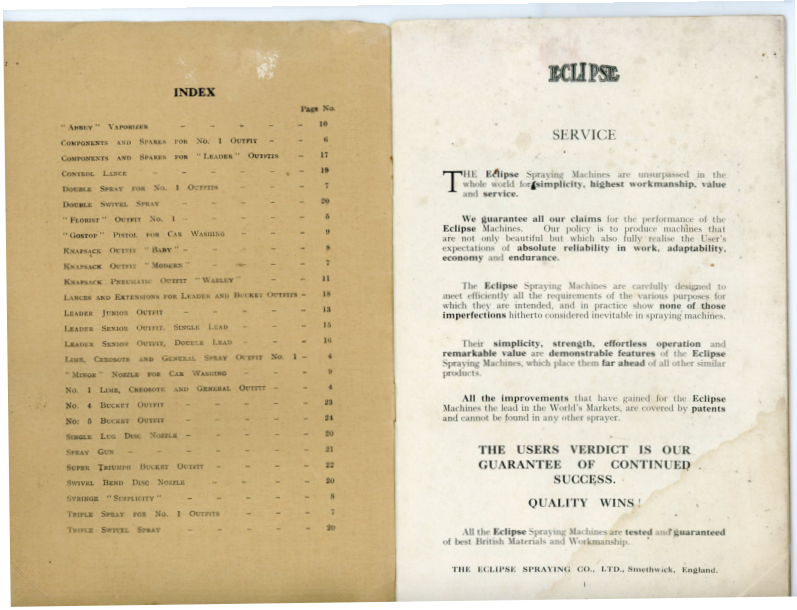
SPRAYERS LEAD the WORLD

British Throughout

THE ECLIPSE SPRAYING CO., LTD.,
RAWLINGS ROAD, BEARWOOD, SMETHWICK, 11 ENGLAND.

Tel.: BEARWOOD 1586. Tel. Add.: "ESPILCE, BIRMINGHAM."

March, 1947. All Previous Lists Cancelled.



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ECLIPSE

SERVICE

THE **Eclipse** Spraying Machines are unsurpassed in the whole world for **simplicity, highest workmanship, value** and **service.**

We guarantee all our claims for the performance of the **Eclipse** Machines. Our policy is to produce machines that are not only beautiful but which also fully realise the User's expectations of **absolute reliability in work, adaptability, economy** and **endurance.**

The **Eclipse** Spraying Machines are carefully designed to meet efficiently all the requirements of the various purposes for which they are intended, and in practice show **none of those imperfections** hitherto considered inevitable in spraying machines.

Their **simplicity, strength, effortless operation** and **remarkable value** are **demonstrable features** of the **Eclipse** Spraying Machines, which place them **far ahead** of all other similar products.

All the improvements that have gained for the **Eclipse** Machines the lead in the World's Markets, are covered by **patents** and cannot be found in any other sprayer.

THE USERS VERDICT IS OUR GUARANTEE OF CONTINUED SUCCESS.

QUALITY WINS!

All the **Eclipse** Spraying Machines are **tested** and **guaranteed** of best British Materials and Workmanship.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

Eclipse

1947 Catalogue

ECLIPSE

Real Demonstrable Advantages.

THE ECLIPSE SPRAYER NO. 1

is by far the simplest and most efficient spraying device extant, and possesses obvious advantages over the ordinary syringe, bucket pump and other similar types of sprayers. **There are no intricate parts to get out of order,** nothing weak in its construction. Users will greatly appreciate its many advantages over the bucket type machine, as **it gives the operator freedom** to move about without the toil of carrying the bucket, and enables him **to use both hands.** The **Eclipse** is **guaranteed** to limewash as well as any machine costing many times its value, and with the **employment of one man only.** Creosoting can also be expeditiously carried out with a huge saving, by the use of the Eclipse. **Hose up to 200 feet can be used.**

Points which no other hand Sprayer can claim.

The **Eclipse No. 1** is primed with the first two or three strokes. The barrel then remains full, spraying continuously on a gentle forward stroke ; the back stroke can be as quick as the operator chooses.

The **Eclipse** is the only certain sprayer with **no backwash.**

The **Eclipse** is the only hand-sprayer that **will lime-wash efficiently.**

The **Eclipse** is the only **perfect creosote sprayer.**

Spraying can **instantaneously be stopped** by a sharp, slight pull-back of the piston rod. No sprayer but the **Eclipse** has this advantage.

Do not be misled by useless imitations.

SPECIAL NOTE FOR FARMERS, STUD OWNERS AND CATTLE BREEDERS.

For Cattle drenching and injecting, the **Eclipse No. 1** is ideal. By the use of the **Special Cattle Injector Nozzle** the injection can be regulated to the exact quantity necessary. Recommended by **Veterinary Practitioners** as the best tool for use with the Stomach Tube. The Eclipse is the best machine obtainable for the farmer, the poultryman, and for every other person where spraying is required to carry out the rules of the **Ministry of Agriculture and the Milk and Dairies Act.**

Buy the Eclipse and have no regrets.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

2

Eclipse

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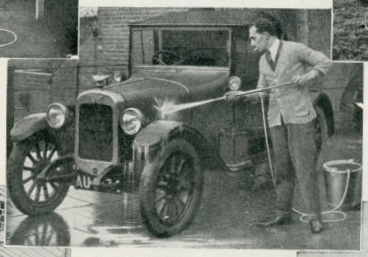
ECLIPSE

A FEW USES OF THE No. 1 OUTFIT ILLUSTRATED.

Light and easily handled in the Hot Houses.

Ideal in the Rose Garden.

Unequalled for Spraying Fruit Trees.



An excellent Car Washer.

Limewashing Fowl Pens, Piggeries, etc.

Straining Lime.

Limewashing or Creosoting Out-houses and all Farm Buildings.

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Eclipse

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Eclipse

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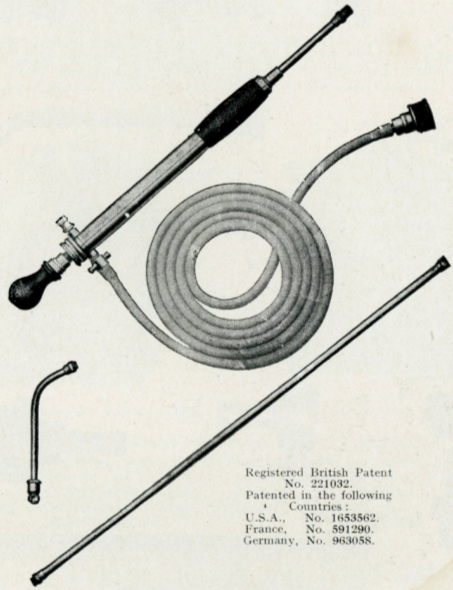
ECLIPSE

The Sprayer of a Thousand Uses.

FAMOUS No. 1 FLORIST'S OUTFIT.



Registered British Patent No. 221032.
Patented in the following Countries:
U.S.A., No. 1653562.
France, No. 591290.
Germany, No. 963058.

The Gardener and Fruit Grower, Amateur or Professional, is ever harassed by the insect pest—a pest that can only be eradicated by the regular use of insecticide, for which purpose, as for ordinary spraying, the Eclipse No. 1 is the **handiest and only perfect Sprayer.**

No. 1 SPRAYER.

With one Lance, Polished and Lacquered, one Angle Bend, one Fine Spraying Nozzle, one Coarse Spraying Nozzle, and 8 ft. Rubber Hose.

Complete, as illustrated **26/6**

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

Eclipse

1947 Catalogue

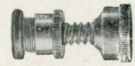
ECLIPSE

Component Parts for No. 1 Sprayer.

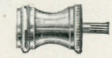
Note: Similar parts for No. 2 Outfit are 6d. extra.

SINGLE JET for Car and Window Washing.
For No. 1, **1/-** each

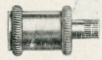
SPARE CAPS for Needle Nozzle
1/- each



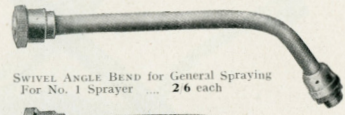
SPECIAL NOZZLE with Spring and Needle Ejector for Limewashing and Creosoting
For No. 1 .... **4/-** each



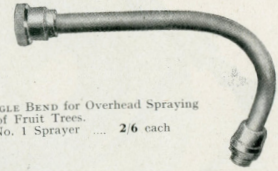
FINE SPRAYING NOZZLE
For No. 1 Sprayer
1/6 each



MIST VAPORISING NOZZLE
For No. 1 .... **2/-** each

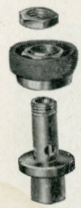


SWIVEL ANGLE BEND for General Spraying
For No. 1 Sprayer .... **2/6** each

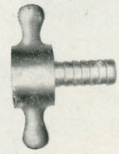


ACUTE ANGLE BEND for Overhead Spraying of Fruit Trees.
For No. 1 Sprayer .... **2/6** each

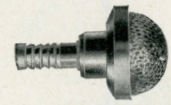
COARSE SPRAYING NOZZLE
For No. 1 .... **1/6** each



COMPLETE PLUNGER as above .... **3/-** each
VALVE PART with leather only, **1/6** each
Leathers only, **3d.** each



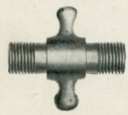
No. 1 HOSE CAP AND LINER .... **1/9** each



No. 1 STRAINER VALVE AND HOSE CONNECTION .... **3/6** pair

SPECIAL WOOD NOZZLE for Cattle Drenching. For No. 1 .... **6/6** each

FLEXIBLE NOZZLE for Cattle Injecting. For No. 1 .... **6/6** each



No. 1 HOSE EXTENSION UNION .... **1/3** each

EXTRA LANCES for Extension, 18" long.
For No. 1 Sprayer .... **2/9** each

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

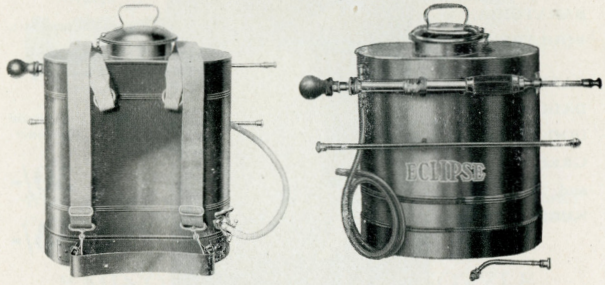
1947 Catalogue

ECLIPSE

MODERN KNAPSACK.

Ideal for the
Potato, Fruit, Rose, and Vine Grower, and the Nurseryman, etc.
As supplied to the TEA GARDENS of Eastern Markets.
Easy to Work. Easy to Clean.

This wonderfully effective combination of our famous No. 1 Sprayer and a Knapsack Container is absolutely free from the troubles and costly renewal charges entailed by other types of Knapsack Sprayers encumbered with side pump, complicated valves, perishable linings and washers. Simplicity, efficiency and long life are the chief advantages of the **Eclipse** Knapsack. The complete Outfit weighs only 11 lbs., and its 3¼ gallon Container is of strong gauge **Special Brass Alloy** suitable for use with Lime-Sulphur, Potassium Sulphide Solution, Bordeaux Mixture, Oil Emulsions, etc.

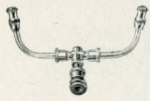


British Patent No. 221032. Regd. Design 737746. U.S.A. Pat. 1653562.

The machine as illustrated, comprising :—

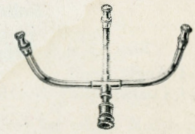
The No. 1 **Eclipse** Sprayer, with 4 ft. best rubber hose and connections ; One Lance Polished and Lacquered ; One fine Spraying Nozzle for insecticides ; One Vaporizing Nozzle ; One Swivel Angle Bend ; Two Adjustable Shoulder Straps fitted with protective pads ; capacity of tank, 3¼ gallons. Price complete **70/-**

No. 1 Eclipse Double and Triple Sprays.



No. 1.
Eclipse Double Spray,
9/- each.

Note their advantages over other crudely constructed multiple sprays.



No. 1 Eclipse Triple Spray, **10**/- each.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

"BABY" KNAPSACK SPRAYER.

Regd. Design 737747 British Patent 221032 U.S.A. Patent 1653562

For
HOSPITALS,
CINEMAS,
SANATORIA,
POULTRY HOUSES,
RABBITRIES,
DAIRIES,
DOG KENNELS,
GREENHOUSES
and
NURSERIES.

The Vaporizer comprises :

The Vaporizing Sprayer.

Satchel strap with buckle.

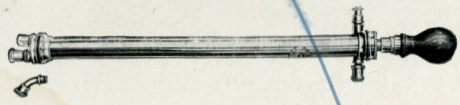
1 Fine spraying nozzle.

1 Vaporizing nozzle and container.

4 pints. **30/-**

8 pints. **33/-**

THE "SIMPLICITY" SYRINGE.



Solid Brass throughout.

Size 15″×1″. All Brass, Polished and Lacquered.

1 Angle Bend.
1 Coarse Spray Nozzle.
1 Nozzle for Insecticide.
1 Straight Jet.

Price 21/- Complete.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

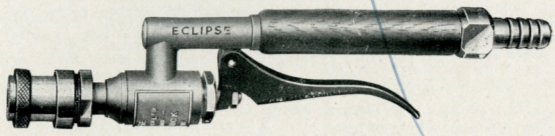
1947 Catalogue

ECLIPSE

"GOSTOP" JET-SPRAY PISTOL.

For CAR and WINDOW WASHING and WATERING THE GARDEN.

Instantaneous trigger RELEASE and STOP! Adjustable by thumb and finger to jet or spray. No Rubber or Leather Washers.



The Eclipse "Gostop" Jet-Spray Pistol supplied for Hoses $\frac{3}{8}$", $\frac{1}{2}$" or $\frac{3}{4}$" inside diameter.

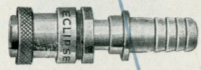
Price, 10/6

When ordering state inside diameter of Hose for which Pistol is required. With Liner for Hose 1" inside diameter 1/- extra.

"MINOR" JET-SPRAY NOZZLE.

For CAR and WINDOW WASHING and WATERING THE GARDEN.

Adjustable by thumb and finger to jet, spray or shut-off. No Rubber or Leather Washers.



The Eclipse "Minor" Jet-Spray Nozzle supplied for Hoses $\frac{3}{8}$", $\frac{1}{2}$" or $\frac{3}{4}$" inside diameter.

Price, 5/6

When ordering state inside diameter of Hose for which Nozzle is required. With Liner for Hose 1" inside diameter 1/- extra.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

THE ECLIPSE "ABBEY" PNEUMATIC VAPORIZER

FOR DISINFECTING OFFICES, WORKS, CINEMAS, HOSPITALS, AND FOR HORTICULTURAL SPRAYING.

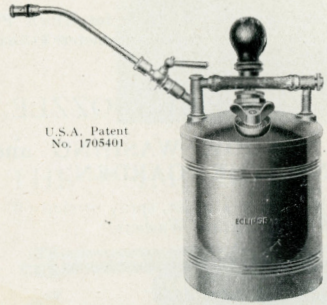
BRITISH THROUGHOUT.

The Eclipse "Abbey" is a beautifully made Pneumatic Vaporizer, strong and entirely free from trouble, as it has no outlet valve to get out of order, or any rubber washers.

Pressure is easily and rapidly raised with the Eclipse Patent charge pump; 30 strokes giving enough pressure to discharge the full load of 4 pints.

Wrist strain is avoided by having a centrally fixed Grip, which permits the easy operation of the stop tap by the thumb of hand carrying the Outfit.

U.S.A. Patent No. 1705401



British Patent No. 221032.

The Tank is made of strong gauge Brass Alloy and is fitted with a release Valve in the filler cap.

The full capacity of the Tank is 5½ pints; the working load, 4 pints.

PRICE, complete, **45/6**

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

THE ECLIPSE "WARLEY" PNEUMATIC SPRAYER.

IDEAL FOR SPRAYING POTATOES, FRUIT TREES, COFFEE, TEA, TOBACCO, MUSHROOM BEDS, ETC.

BRITISH THROUGHOUT.

A wonderfully efficient, high-class Pneumatic Outfit embodying important improvements over old types.

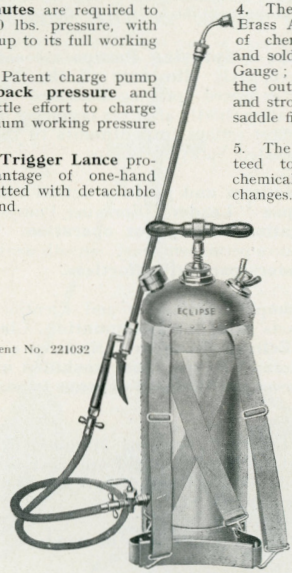
1. **Only 2 minutes** are required to charge up to 90 lbs. pressure, with the tank loaded up to its full working capacity.

2. The Eclipse Patent charge pump is **free from back pressure** and requires very little effort to charge up to the maximum working pressure of 90 lbs.

3. The Eclipse **Trigger Lance** provides the advantage of one-hand control, and is fitted with detachable Swivel Angle Bend.

4. The Tank is made of heavy gauge Brass Alloy to withstand the effect of chemical washes, well rivetted and soldered and fitted with Pressure Gauge; Filler Cap; Stop Cock at the outlet connecting to the hose; and strong webbing straps and spring saddle fitted with protective pad.

5. The 3-ply pressure hose is guaranteed to withstand the effects of chemical washes and severe climatic changes.



British Patent No. 221032

U.S.A. Patent No. 1705401

The complete outfit, as illustrated above, comprises :— Brass Tank; Pressure Gauge; 3 ft. 3-ply best quality Pressure Hose; Eclipse Trigger Lance; Swivel Bend; Disc Nozzle with Two Discs; 1½ inch wide Straps and Tundish Strainer.

Tank Capacity	Working Load	Weight	Price
~~1½ Imperial Gallons~~	~~1 Imperial Gallon~~	~~13 lbs.~~	~~90/-~~ 105/-
3 Imperial Gallons	2 Imperial Gallons	17 lbs.	~~110/-~~ 120/-
4 Imperial Gallons	3 Imperial Gallons	21 lbs.	130/-

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

A Revelation in Spraying Appliances.

THE ECLIPSE "LEADER" SPRAYING PUMPS.

With Patent Oil Bath Lubrication.

HAVE NO EQUAL IN THE WORLD.

The **Eclipse "Leader" Spraying Pumps** are entirely **new inventions** which completely **eliminate** all the disadvantages hitherto found in higher priced Spraying Machines. Up to now, the rapid loss of lubrication shortly after the beginning of operation has been one of the most serious **impediments to the efficient working** of hand operated Spraying Pumps.

The **exclusive features and positive action valves** are so designed in the **Eclipse "Leader"** Spraying Pumps that they **retain their lubrication throughout operation.** This most important feature ensures permanent, easy, smooth working, which the **stirrup foot renders perfectly effortless.**

The extremely simple construction and scientific design of all the component parts make the **Dismounting, Cleaning** and **Assembling** of the **Eclipse "Leader"** Machines a pleasurable job, that can be performed **by the most unskilled user;** they are **absolutely foolproof** and entail **no expense in maintenance or repairs.**

The **Eclipse "Leader"** Spraying Machines **draw liquid from a distance** and any type of liquid container may be used. They entirely supersede the **old types** of Spraying Machines fixed in **Buckets, Barrels, Tanks,** etc.

Any length of delivery hose may be used.

The **Stirrup Foot** is drilled and may be fixed to board for use on soft and swampy ground.

If you require **effective, lasting service** for a very **moderate outlay,** the **Eclipse "Leader"** Machines will **realise your expectations.**

We guarantee their performance.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

THE

ECLIPSE LEADER JUNIOR.

Patent Oil Bath Lubricated Pumps.

A modern invention never before available!

The **Eclipse "Leader Junior"** is unquestionably the finest **Lime-washing, Creosoting** and **General Spraying Pump** yet invented. It entirely supersedes the type of Sprayers fixed in **buckets, pails, tanks,** etc.

A powerful continuous spray of 125 lbs. pressure is obtained in **a few seconds.**

The Stirrup Foot is drilled and may be fixed to board for use on soft and swampy ground. Any length of delivery Hose may be used.

EASY TO WORK.
EASY TO CLEAN.
EASY TO OIL.
EASY TO CARRY.

British Patent No. 272147
Regd. No. 728067
U.S.A. Patent No. 1705401

The Outfit comprises:—

PUMP, with 1¾ inch Barrel, polished and lacquered.
10 feet 3-ply Suction Hose and Fittings.
15 feet 3-ply Delivery Hose.
1 2 foot Lance with Stop Tap and rosewood Handle, polished and lacquered.
1 Spraying Nozzle.
1 Nozzle with Spring and Needle Ejector for Lime-washing and Creosoting.
1 Angle Bend, polished and lacquered.
1 Unrustable Strainer.
1 Spanner.

Special acid resisting Ball Valves throughout.

Complete as illustrated. £5 5 0

For Patent Control Lances, Extensions and Special Nozzles, see pages 17 to 20.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

LEADER SENIOR.

Patent Oil Bath Lubricated Pump.

A modern invention never before available!

The "**Leader Senior**" is a more powerfully built type of Pump than the "Leader Junior," illustrated on page 13, thus giving facilities for use as a single or double lead machine. **Two minutes only** are required for the conversion from single to double lead.

Being so powerfully constructed, a **Spraying pressure** of 200 lbs. can be obtained *from the end of the delivery*—while a comfortable working pressure of 150 lbs. is easily maintained.

Fifteen seconds only are required to obtain a free supply through 10 feet of suction hose, and 60 feet of delivery hose. Twenty-five feet of delivery are supplied, but **hose up to 200 feet or more** can be used with equal results, which enables a wide area to be covered without moving the pump. Liquid can be drawn from any tank, cistern, barrel, well, reservoir, pool, etc., as desired.

A noteworthy feature is that the stirrup foot is drilled to take wood screws which enable the pump to be fixed to board for use on soft and swampy ground.

By reason of its unique construction the "**Leader**" **supersedes** the cumbersome and inefficient old type machines, **of treble cost,** fixed in **tanks** and **barrels,** which at all times cause a great amount of unnecessary labour and discomfort, are difficult to clean and hopeless to repair. The "**Leader**" reduces the work and expense of spraying to a minimum.

The "LEADER" meets all spraying requirements:

LIMEWASHING, DISINFECTING, HORTICULTURAL and AGRICULTURAL WORK.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

LEADER SENIOR No. 3A.

Oil Bath Lubricated.

EASY TO WORK — EASY TO CLEAN — EASY TO OIL — and most important, EASY TO REPAIR.

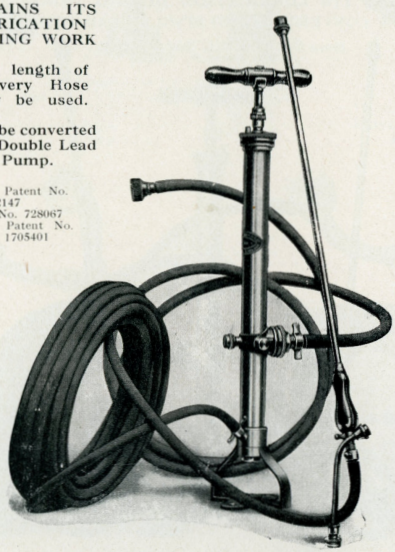
Saves 75% in Time, Labour and Material.

RETAINS ITS LUBRICATION DURING WORK

Any length of Delivery Hose may be used.

May be converted into Double Lead Pump.

British Patent No. 272147
Regd. No. 728067
U.S.A. Patent No. 1705401



SINGLE LEAD PUMP comprises:

1 The "Leader" Pump, with 1¾ in. barrel, polished and lacquered.
10 ft. ½ in. 3-ply Suction Hose and fittings.
25 ft. 3-ply Delivery Hose and fittings.
1 Lance, polished and lacquered, fitted with rosewood handle and stop tap.
1 Angle Bend for general work.
1 Limewashing Nozzle with Spring and Needle Ejector.
1 Fine Spraying Nozzle.
1 Unrustable Sieve for limewash.
1 Spanner.

The above as illustrated:

£8 17 6

For Patent Control Lances, Extensions and Special Nozzles, see pages 17 to 20.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

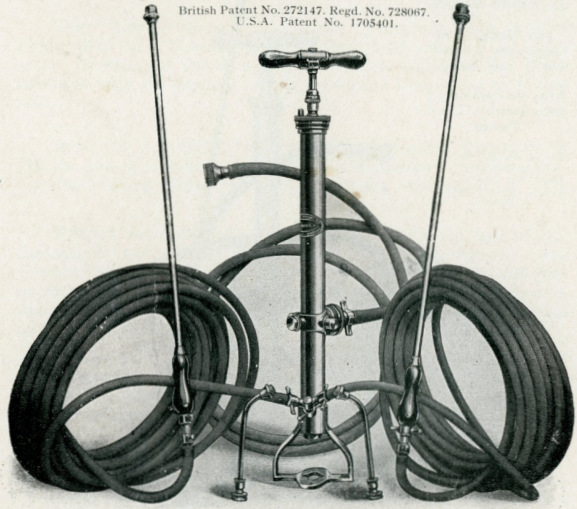
LEADER SENIOR No. 3B.

A Wonderful Revelation in Large Scale Spraying.
Oil Bath Lubricated.

EASY TO WORK — EASY TO CLEAN — EASY TO OIL — EASY TO REPAIR. NOTHING TO GO WRONG. RETAINS ITS LUBRICATION DURING WORK.

MAY BE CONVERTED INTO SINGLE LEAD PUMP.

British Patent No. 272147. Regd. No. 728067.
U.S.A. Patent No. 1705401.



DOUBLE LEAD PUMP comprises :

The " Leader " Pump, with 1¾ in. barrel, polished and lacquered.
10 ft. ½ in. 3-ply Suction Hose and fittings.
2 Lengths, 25 ft. each, 3-ply Delivery Hose and fittings.
Double branch Connection fitting for attachment of deliveries.
2 Lances, polished and lacquered, fitted with rosewood handles and stop tap.
2 Angle Bends for general work.
2 Limewashing Nozzles with Spring and Needle Ejectors.
2 Fine Spraying Nozzles.
1 Unrustable Sieve for limewash.
1 Spanner.

The above as illustrated £11 7 6

Also with 3 Spraying Leads £13 12 6, or 4 Spraying Leads £15 19 6.
For Patent Control Lances, Extensions and Special Nozzles, see pages 17 to 20.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

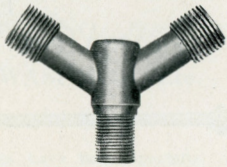
ECLIPSE

LEADER JUNIOR or SENIOR PARTS

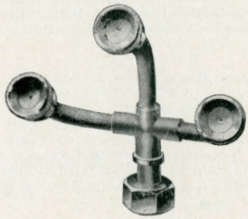
Fine Spraying Disc Nozzle **3/6.**

LIMEWASHING NOZZLE. With Spring and Needle Ejector. **4/6** each.

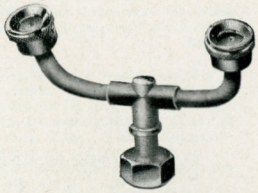
Spare Caps for Needle Nozzle. **1/-** each.



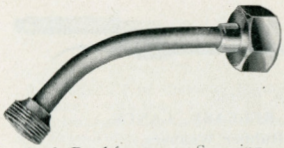
Double Delivery Extension Fitting. **5/-** each.



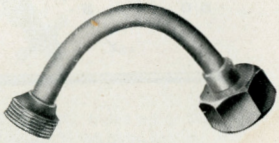
Triple Swivel Spray with 2 Spray Discs per Nozzle. Bent or Straight Prongs, **10/-.**
Spare Rotors .. **6d.** each.
Spare Discs .. **6d.** each.



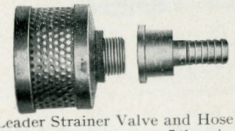
Double Swivel Spray with 2 Spray Discs per Nozzle, Bent or Straight Prongs, **9/-.**
Spare Rotors .. **6d.** each.
Spare Discs .. **6d.** each.



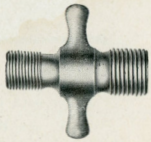
Angle Bend for general Spraying **3/6** each.



Acute Angle Bend for overhead Spraying of Fruit Trees, **3/6** ea.



Leader Strainer Valve and Hose Connection .. **5/6** pair.



Single Delivery Extension Union .. **3/6** each.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

17

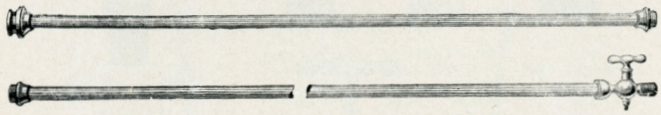
Eclipse

1947 Catalogue

ECLIPSE

SPRAYING LANCES AND EXTENSIONS.

For ECLIPSE "LEADERS" and BUCKET MACHINES.



The Lances with Stop Tap are connected direct to the delivery hose, whilst the extensions may be used further to extend the reach of either these Extra Long Spraying Lances or the 2 ft. Lances supplied with the standard Outfits.

These Lances, made of strong gauge **Reeded Brass Tube,** are extremely light and rigid.

Prices :

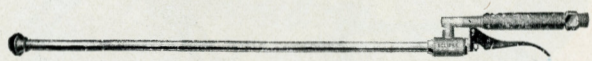
Extra Long Spraying Lances with Stop Tap ; fitted with Rubber Grip.

6 ft. × ⅝ in. dia. **15/6** each

8 ft. × ¾ in. dia. **20/-** each

Extension Lances (without Stop Tap).

2 ft. × ⅝ in.	4 ft. × ⅝ in.	6 ft. × ⅝ in.	6 ft. × ¾ in.	8 ft. × ¾ in.
5/6	8/-	11/-	12/-	15/6 each

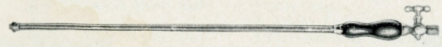


Length 2 ft. 3 in. overall.

ECLIPSE "TRIGGER" RELEASE LANCE.

No Rubber Valve nor Rubber Washers.

10/6 each.



Length 2 ft. 3 in. overall.

Lance with Rosewood Handle and Stop Tap, **9/6** each.

Replacements or Extras.

Extra Hose, ½ in., 3-ply Suction .. **1/3** per ft. nett.

Extra Hose, ¾ in., 3-ply delivery .. **1/3** per ft. nett.

Any length of Hose can be used.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

THE ECLIPSE PATENT CONTROL LANCE, No. 9.

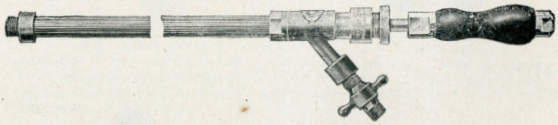
FOR FRUIT TREES, LIMEWASHING, Etc.

FOR LOW OR HIGH PRESSURE SPRAYING.

The Eclipse Patent "Control" Lances have been specially designed to ensure to the discerning User the following definite advantages :—

1.—LONG SERVICE UNDER HIGH PRESSURE.
2.—ELIMINATION OF LEAKING TAPS.
3.—TOUCH CONTROL OF SPRAY.
4.—ELIMINATION OF WASTE.
5.—RIGIDITY AND BALANCE.
6.—LOW COST.

The Eclipse Patent "Control" in these Lances enables the Operator to open out or shut off the feed without having to release his right hand grip, as he is forced to do with the old fashioned lance in order to fumble with the cumbersome stop Tap. This advantage ensures economy in material with instantaneous control of the spray, and perfect balance with less effort. These Lances are supplied to the following specification and prices.



British Patent No. 409446. Reg. Design 770928.

Made of ¾ in. diameter Reeded Brass Tube, 17G, tested up to 500 lbs. pressure ; with touch control by fractional turning of the wood handle ; free from leakage. The Lances are also fitted with a **Reeded Rubber Grip** on the Brass Tube. All fitted with required adaptor to suit Hose Union.

PRICES.

	2 ft.	4 ft.	6 ft.	8 ft. long.
No. 9	25/-	27/-	29/-	31/6 each.

Extension Lances in Reeded Brass Tube ⅝ in. and ¾ in. diameter are supplied for extending the above Patent "Control" No. 9 (see page 18).

For Nozzles for these Lances, see page 20.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

1947 Catalogue

ECLIPSE

A BOON TO FRUIT GROWERS.

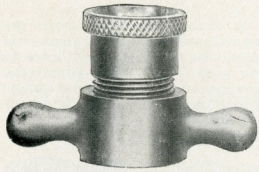
The greatest possible **Service** to the **User** with **Extreme Simplicity** and **Economy** are the main considerations in the production of these

Eclipse Spraying Accessories.

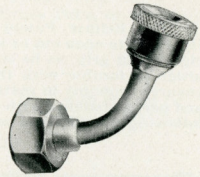
For use WITH LANCES with LOW OR HIGH PRESSURE Machines.

Note these Features :

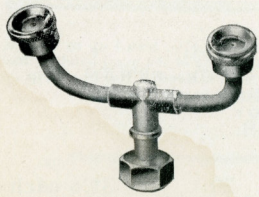
1. For use with Heavy Duty hand or power Sprayers.
2. All fitted with easily replaceable **Spray Discs** for Fine, Medium or Coarse Sprays.
3. **Internal Washers** ensure sound joints and prevent blowing out under high pressures.
4. Maximum strength at minimum cost.



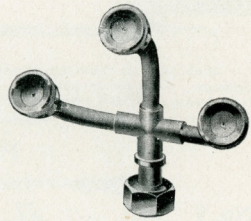
Single Lug Disc Nozzle with 2 Spray Discs. **4/6**
Spare Rotors .. **6d.** each.
Spare Discs .. **6d.** each.



Swivel Bend Disc Nozzle with 2 Spray Discs. **6/6.**
Spare Rotors .. **6d.** each.
Spare Discs .. **6d.** each.



Double Swivel Spray with 2 Spray Discs per Nozzle, Bent or Straight Prongs. **9/-.**
Spare Rotors .. **6d.** each.
Spare Discs .. **6d.** each.



Triple Swivel Spray with 2 Spray Discs per Nozzle. Bent or Straight Prongs. **10/-.**
Spare Rotors .. **6d.** each.
Spare Discs .. **6d.** each.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

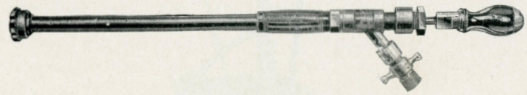
1947 Catalogue

ECLIPSE

The ECLIPSE SPRAY GUN.

For HIGH PRESSURE Spraying Machines only.

Very prolonged and exhaustive tests justify our claim that the ECLIPSE Spray Gun for fruit trees, bushes, etc., is the most efficient Spray Gun in the market.



British Patent No. 409446. Regd. Design 770928.

Strongly constructed and of unsurpassed workmanship, it differs entirely from other makes and embodies **essential** and **important advantages,** of which the following will be readily appreciated by all Users.

Quick and **fractional regulation** from jet to fine spray.

Control and regulation of the spray is given by the turn of the wood handle. No **Stop Tap** is necessary with this gun.

A **most important difference** between the Eclipse Spray Gun and other types is that the Packing Gland is **absolutely independent** of the regulation and control of the spray.

The Lug Adaptor, shown in the illustration, for connecting the gun to the hose union, may be supplied to requirements in $\frac{3}{8}$, $\frac{1}{2}$, or $\frac{3}{4}$ **Gas Thread.**

The Gun is entirely of best **British materials and workmanship.**

Three Jet Nipples are supplied with every gun, together with spare washers for the Packing Gland.

PRICE, COMPLETE,

With Adaptor
And Nos. 3, 4, 5 Nipples **39/6**

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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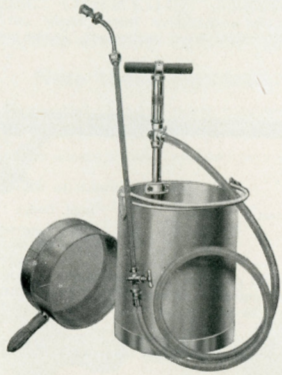
Eclipse

1947 Catalogue

ECLIPSE

THE ECLIPSE "SUPER TRIUMPH" BUCKET SPRAYER

EASY TO OIL AND REPAIR.



Patent No. 310273 Regd. Design 740334

Simplicity is the keynote of the **Eclipse** "**Super Triumph**" Bucket Sprayer, as of all Eclipse Products.

The serious handicaps which in practice minimise the utility of all other Bucket Sprayers have been: firstly—the mechanical impossibility, without costly engineering work, of removing the plunge rod for oiling purposes or for replacing the plunge leather bucket when this has perished, as it eventually does; secondly—the difficulty of operating the delivery branch at any angle desired.

The **Eclipse** "**Super Triumph**" Bucket Sprayer with **Patent Valve** is as **simple, efficient and serviceable** as a Bucket Sprayer can be. The most unskilled User can take out the plunge rod for oiling or repairing when necessary; the delivery branch may be used at any angle desired.

The **Eclipse** "**Super Triumph**" is an **Eclipse** Product, **guaranteed superior** to all similar machines of other makes at present in the market.

Complete with 5 ft. best quality 3-ply Hose, Lance with first-class Stop Tap, Angle Bend, one Nozzle with Spring and Needle Ejector for Limewashing and Creosoting, one Fine Spraying Nozzle, 4 GALLON **Bucket** and unrustable Strainer.

£2 16 0

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

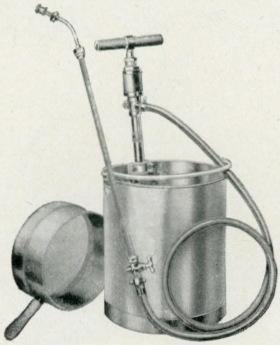
1947 Catalogue

ECLIPSE

SPRAYING AND LIMEWASHING MACHINES

THE ECLIPSE No. 4 BUCKET SPRAYER.

EASY TO CLEAN. EASY TO OIL.



Patent No. 310273 Regd. Design 740334

A first-class Pump with Air Chamber Body and **Patent Combination Valve.**

Complete with 6 ft. best quality 3-ply Hose, Lance with first-class Stop Tap, Angle Bend, one Nozzle with Spring and Needle Ejector for Limewashing and Creosoting, one Fine Spraying Nozzle, 4 GALLON **Bucket** and unrustable Strainer.

£3 3 6

If supplied with Lance with Stop Tap and Rosewood Handle as illustrated on page 18.

£3 7 0

If fitted on 6 gallons strait-sided pail 7/6 extra

For Extension Lances and Replacements see page 18.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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Eclipse

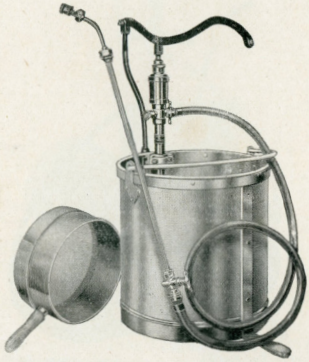
1947 Catalogue

ECLIPSE

SPRAYING AND LIMEWASHING MACHINES

THE ECLIPSE No. 5 BUCKET SPRAYER.

EASY TO CLEAN. EASY TO OIL AND REPAIR.



Patent No. 310273 Regd. Design 740334

A first-class Pump fitted with Air Chamber, **Patent Combination Valve** and Malleable Iron Lever Action.

In SIX GALLON Pail and fittings as illustrated, comprising 6 ft. best 3-ply Hose, Lance with first-class Stop Tap, one Nozzle with Spring and Needle Ejector for Limewashing and Creosoting, one Fine Spraying Nozzle and unrustable Strainer, and Angle Bend.

£4 7 6

If supplied with Lance with Stop Tap and Rosewood Handle as illustrated on page 18.

£4 11 0

For Extension Lances and Replacements, see page 18.

THE ECLIPSE SPRAYING CO., LTD., Smethwick, England.

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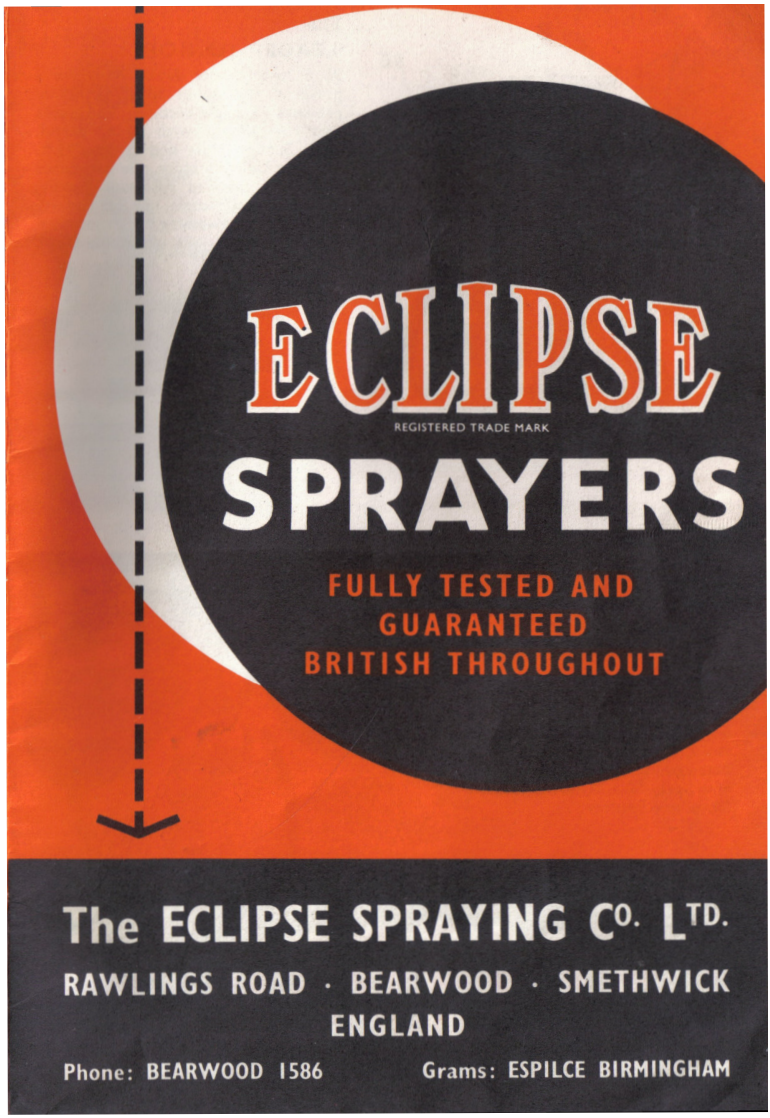
Eclipse

Catalogue



Eclipse

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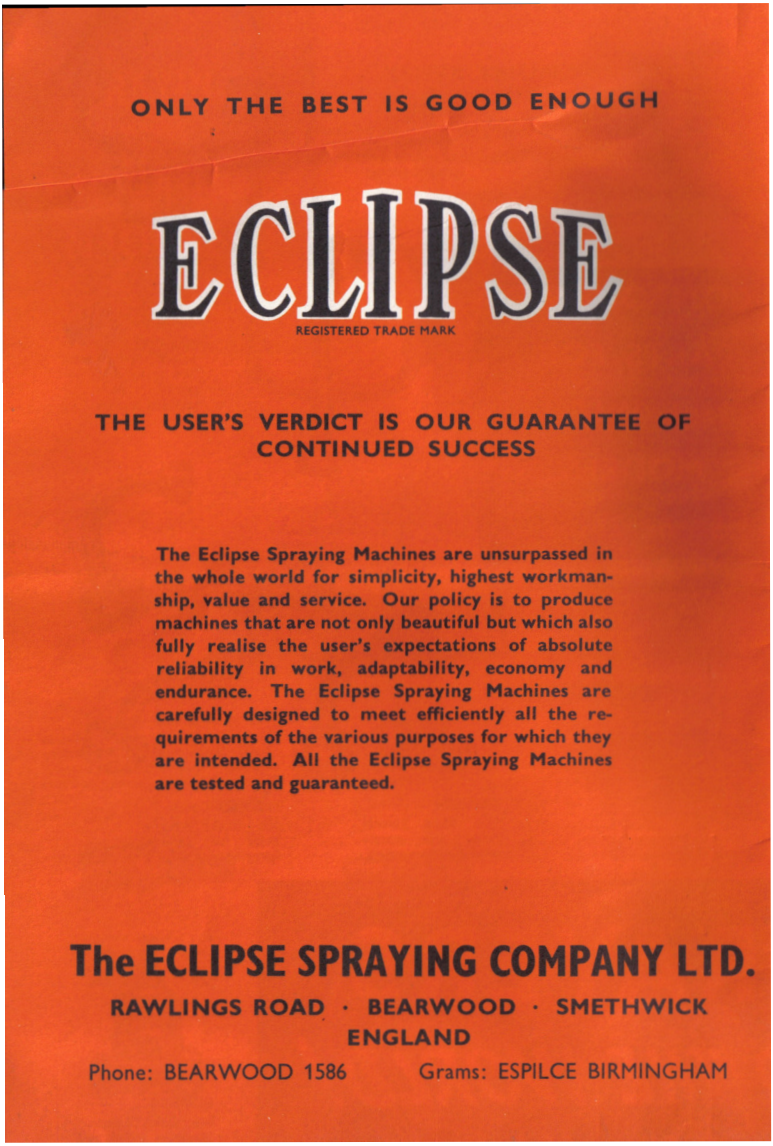

Eclipse

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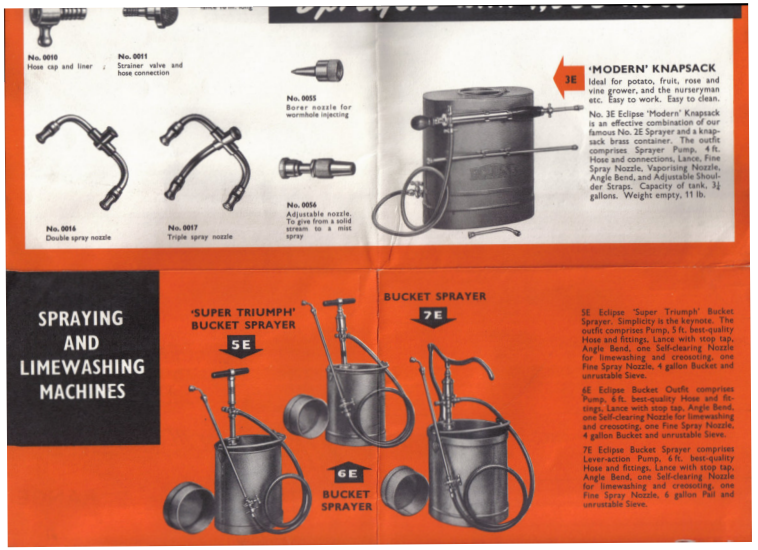

Eclipse

Newspaper article - Birmingham Post - 6 May 1974

APPOINTMENTS - Couple make big killing in Africa Birmingham Post Business Staff A 50-year-old Smethwick firm, taken over 18 months ago by a husband and wife team, is now exporting almost half its output of brass sprayers to Africa. Eclipse Sprayers manufactures a range of high-quality brass spraying equipment for use in industry, agriculture and horticulture Although it is a relatively small concern, Mr. John Pennock and his wife, Jean, have already achieved a £55,000 turnover. Mr. Pennock said: "Naturally, today most people go for the much cheaper plastic sprayers, but there still exists a hard-core who are prepared to pay for quality, which in the long-run is cheaper. Longer life "The advantages of brass sprayers are that they have a longer life than the plastic ones and they can stand up to rough handling." he said. Eclipse has about a doien staff who manufacture the various sprayers pneu- matic. pump and motorisedin a 3,000 sq. ft. plant in Rawlings Road, Smethwick. Prices are between £5 and £35. Mr. Pennock and his wife have a keen interest in expansion. They have introduced electric power pumps and they redesign equipment as required. New designs These new designs include a drain-testing machine for use by builders, and a new cyanide pump for ratholes. They also have .pedal sprayers for woodwork. But the firms biggest single market is Africa which claimed £20,000 of last year's £55,000 turnover. Mr. Pennock said: "The climate is hard on plastic sprayers there. It makes them hard and brittle. Because of this our brass equipment is preferred for the spraying of crops and malaria-carrying mosquitoes. Mr. V. Ilalen. who recently bought a hand-sprayer from Eclipse for use in his garden in Ellecom, Holland, wrote to Mr. Pennock: "This is really English workmanship at its best and a pleasure to look at and use."

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Chapter 17

Donald Edward Ltd

Donald Edward (Birmingham) Ltd

Donald Edward (Birmingham) Ltd - Britannia Works, Price Street, Birmingham. Later at Little Edward St, Bordesley and then 188 Edward Road, Balsall Heath, Birmingham.

Red Shield label and Green Shield Brand.

In the Birmingham Gazette for 3 February 1930 the company is shown as a new company. However, it may have existed in some form before 1923. The 1930 entry shows them as wire workers, iron steel and brassfounders, manufacturers and dealers in all kinds of wire and metal goods and hardware, sellers of machine tools and accessories, gas stoves and burners etc. The directors were Donald. N. Walker-Pitt, and R. Horseman.

In 1927 they were looking for a new site in Birmingham and by 1932 they are shown as Wire Workers, Little Edward St, Bordesley. Then from about 1940 to 1961 as Wire Workers,188 Edward Road, Balsall Heath, and then from 1960 as horticultural manufacturers at the same address. In 1964 they became part of the Cope Allman Group with a move to Edward Road, Balsall Heath.

Examination of the available sprayers suggests that sprayer manufacture started just before or just after WW II. It may be that the sprayers they manufactured before this were not branded. There were catalogues in 1960 and 1962 and advertisements up to 1964, so probably sprayer manufacture ceased a few years after this.

Ernest Cecil West and Donald Norrie Walker-Pitt have a patent GB473217A dated 8 October 1937. This is for a handheld sprayer which could produce either a fine spray or a jet.

Mostly the Red Shield logo is applied as a decal (paint transfer). The Green Shield brand was originally applied as a brass plate and later a sticker. The decal and the sticker are easily worn away, but providing the sprayers is not over cleaned the mark they leave is distinctive. It is assumed that sprayers with a brass plate are earlier.

Sprayers

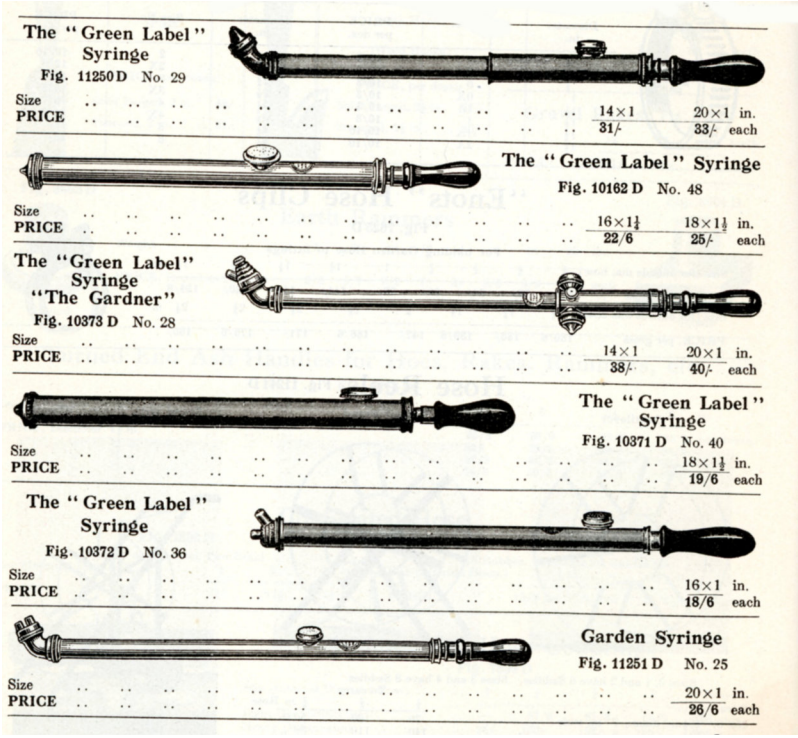
Donald Edwards produced a range of small handheld sprayers.

Donald Edward (Birmingham) Ltd

The range included syringes, self supplying sprayers, pneumatic sprayers, and a double action sprayer of the ‘SOLO’ type. Early sprayers have a brass plate with the GREEN LABEL BRAND. Later sprayers have a shield shaped DONALD EDWARDS decal and also a GREEN LABEL BRAND sticker.

Donald Edwards is well represented in the catalogues of Buck & Hickman of 2 Whitechapel Road, London E1. The 1953 lists 14 syringes. The 1958 catalogue lists the same14 syringes, but with around a 20% price increase. The 1964 catalogue lists 19 Donald Edward Sprayers. Included are 15 syringes, two continuous sprayers and two pneumatic sprayers. These may not reflect the full range at the time, but they are the best lists I am aware of.

Below :- Buck & Hickman 1953 Catalogue (Page 1190)



The “Green Label” Syringe
Fig. 11250 D No. 29

Size	14×1	20×1 in.
PRICE	31/-	33/- each

The “Green Label” Syringe
Fig. 10162 D No. 48

Size	16×1½	18×1½ in.
PRICE	22/6	25/- each

The “Green Label” Syringe “The Gardner”
Fig. 10373 D No. 28

Size	14×1	20×1 in.
PRICE	38/-	40/- each

The “Green Label” Syringe
Fig. 10371 D No. 40

Size	18×1½ in.
PRICE	19/6 each

The “Green Label” Syringe
Fig. 10372 D No. 36

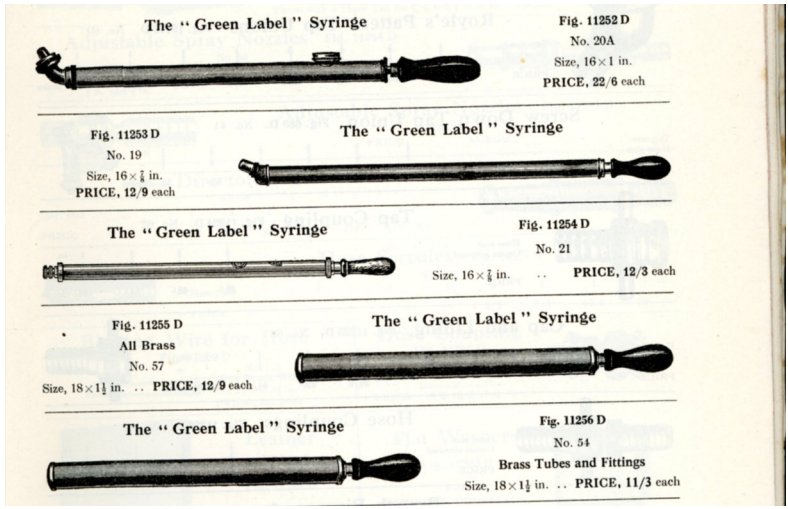
Size	16×1 in.
PRICE	18/6 each

Garden Syringe
Fig. 11251 D No. 25

Size	20×1 in.
PRICE	26/6 each

Donald Edward (Birmingham) Ltd

Below :- Buck & Hickman 1953 Catalogue (Page 1191)



The "Green Label" Syringe

Fig. 11252 D
No. 20A
Size, 16×1 in.
PRICE, 22/6 each

Fig. 11253 D
No. 19
Size, 16×⅞ in.
PRICE, 12/9 each

The "Green Label" Syringe

The "Green Label" Syringe

Fig. 11254 D
No. 21
Size, 16×⅞ in. .. PRICE, 12/3 each

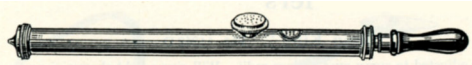
Fig. 11255 D
All Brass
No. 57
Size, 18×1½ in. .. PRICE, 12/9 each

The "Green Label" Syringe

The "Green Label" Syringe

Fig. 11256 D
No. 54
Brass Tubes and Fittings
Size, 18×1½ in. .. PRICE, 11/3 each

Below :- Buck & Hickman 1958 Catalogue (Page 1237)



"GREEN LABEL" SYRINGES

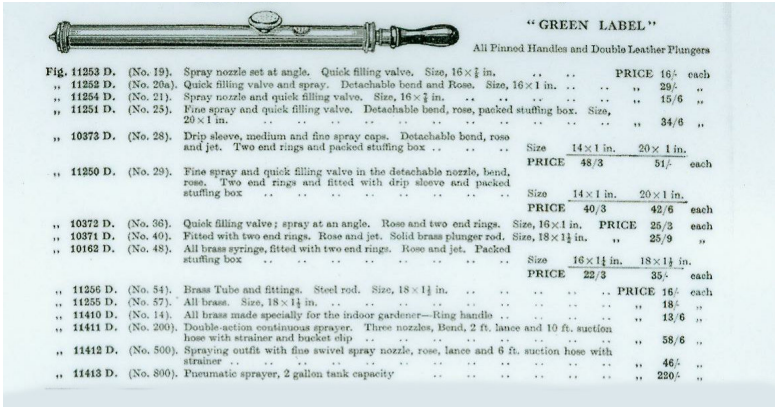
All Pinned Handles and Double Leather Plungers

Fig. 11253 D.	(No. 19).	Spray nozzle set at angle. Quick filling valve. Size, 16×⅞ in.	PRICE	15/-	each
,, 11252 D.	(No. 20a).	Quick filling valve and spray. Detachable bend and Rose. Size, 16×1 in.	,,	27/-	,,
,, 11254 D.	(No. 21).	Spray nozzle and quick filling valve. Size, 16×⅞ in.	,,	14/6	,,
,, 11251 D.	(No. 25).	Fine spray and quick filling valve. Detachable bend, rose, packed stuffing box. Size, 20×1 in.	,,	32/-	,,
,, 10373 D.	(No. 28).	Drip sleeve, medium and fine spray caps. Detachable bend, rose and jet. Two end rings and packed stuffing box	Size 14×1 in. 20×1in. PRICE 45/- 47/6		each
,, 11250 D.	(No. 29).	Fine spray and quick filling valve in the detachable nozzle, bend, rose. Two end rings and fitted with drip sleeve and packed stuffing box	Size 14×1 in. 20×1 in. PRICE 37/6 39/6		each
,, 10372 D.	(No. 36).	Quick filling valve; spray at an angle. Rose and two end rings.	Size, 16×1 in. PRICE	23/6	each
,, 10371 D.	(No. 40).	Fitted with two end rings. Rose and jet. Solid brass plunger rod.	Size, 18×1½ in. ,,	24/-	,,
,, 10162 D.	(No. 48).	All brass syringe, fitted with two end rings. Rose and jet. Packed stuffing box	Size 16×1¼ in. 18×1½ in. PRICE 30/- 32/6		in. each
,, 11256 D.	(No. 54).	Brass Tube and fittings. Steel rod. Size, 18×1½ in.	.. .. PRICE	15/-	each
,, 11255 D.	(No. 57).	All brass. Size, 18×1½ in.	.. .. ,,	16/9	,,

Donald Edward (Birmingham) Ltd

Below :- Buck & Hickman 1964 Catalogue (Page 1202)

This features two continuous sprayers and also two pneumatics. Mention is made of a two gallon pneumatic (model 800). I only know this from a very small illustration and have no details. The small indoor sprayer (Model 14) with a ring handle is mentioned.

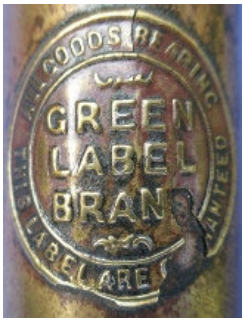


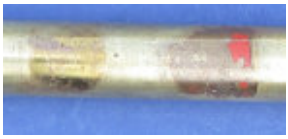
"GREEN LABEL"

All Pinned Handles and Double Leather Plungers

Fig. 11253 D.	(No. 19).	Spray nozzle set at angle. Quick filling valve. Size, 16 × ¾ in.	PRICE 16/- each
,, 11252 D.	(No. 20a).	Quick filling valve and spray. Detachable bend and Rose. Size, 16 × 1 in.	,, 29/- ,,
,, 11254 D.	(No. 21).	Spray nozzle and quick filling valve. Size, 16 × ¾ in.	,, 15/6 ,,
,, 11251 D.	(No. 23).	Fine spray and quick filling valve. Detachable bend, rose, packed stuffing box. Size, 20 × 1 in.	,, 34/6 ,,
,, 10373 D.	(No. 28).	Drip sleeve, medium and fine spray caps. Detachable bend, rose and jet. Two end rings and packed stuffing box	Size 14 × 1 in. 20 × 1 in. PRICE 48/3 51/- each
,, 11250 D.	(No. 29).	Fine spray and quick filling valve in the detachable nozzle, bend, rose. Two end rings and fitted with drip sleeve and packed stuffing box	Size 14 × 1 in. 20 × 1 in. PRICE 40/3 42/6 each
,, 10372 D.	(No. 36).	Quick filling valve; spray at an angle. Rose and two end rings.	Size, 16 × 1 in. PRICE 25/3 each
,, 10371 D.	(No. 40).	Fitted with two end rings. Rose and jet. Solid brass plunger rod.	Size, 18 × 1½ in. ,, 25/9 ,,
,, 10162 D.	(No. 48).	All brass syringe, fitted with two end rings. Rose and jet. Packed stuffing box	Size 16 × 1½ in. 18 × 1½ in. PRICE 22/3 35/- each
,, 11256 D.	(No. 54).	Brass Tube and fittings. Steel rod. Size, 18 × 1½ in.	PRICE 16/- each
,, 11255 D.	(No. 57).	All brass. Size, 18 × 1½ in.	,, 18/- ,,
,, 11410 D.	(No. 14).	All brass made specially for the indoor gardener—Ring handle	,, 13/6 ,,
,, 11411 D.	(No. 200).	Double-action continuous sprayer. Three nozzles, Bend, 2 ft. lance and 10 ft. suction hose with strainer and bucket clip	,, 58/6 ,,
,, 11412 D.	(No. 500).	Spraying outfit with fine swivel spray nozzle, rose, lance and 6 ft. suction hose with strainer	,, 46/- ,,
,, 11413 D.	(No. 800).	Pneumatic sprayer, 2 gallon tank capacity	,, 220/- ,,

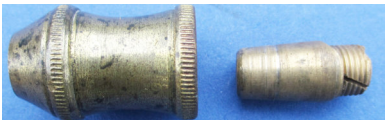
Donald Edward (Birmingham) Ltd





Left :- Marks of labels, Typical of Donald Edward sprayers. Over cleaning can easily remove these marks.

Syringes



Above :- [364] {2} Barrel length 17 inches and diameter 1 inch. Purser type drip preventer 5½ inches long. Brass plate with Green Label Brand. Spray nozzle with an integrated fast-fill valve (see below). Rose nozzle. Back-to-back leather cup washer pistons. Probably missing a jet nozzle. Originally a gold lacquer finish. Piston rod is a brass tube $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar.

Above :- [531] {2} Barrel length 20 inches and diameter 1 inch. Brass plate for Green Label Brand. Spray nozzle with a separate fast-fill valve controlled by a ball. Rose nozzle. Purser type drop preventer 8 inches long. Missing holder. Also, holder for an additional cap for the spray nozzle. Back-to-back leather cup washer piston. Probably missing a jet nozzle. The piston is a brass tube $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. Appears to be 'The Gardener' model 28. Available in 1953.

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Above :- [043] {2} Barrel length 20 inches and diameter 1 inch. Donald Edward decal and Green Label Brand sticker. Purser type drip preventer 5 inches long. Spray nozzle with a separate fast-fill valve controlled by a ball. Rose and jet nozzles. Back-to-back leather cup washer piston. Piston rod is a brass tube $^{7}/_{16}$ inch in diameter. There is a spring on piston rod and a rubber buffer. Originally gold lacquered. The barrel has collars on both ends. Possibly model 28.

Above :- [418] {2} Barrel length 14 inches and diameter 1 inch. Remains of Donald Edward decal. Purser type drip preventer 5 inches long. Spray nozzle with a separate fast-fill valve controlled by a ball held in with the pin. Rose and jet nozzles. Additional cap for spray nozzle. Back-to-back leather cup washer pistons. The piston rod is a brass tube $^{7}/_{16}$ inch in diameter. Spring on piston rod. Both ends of the barrel have a collar. Possibly model 28.

Above :- [067] {3} Barrel length 16 inches and diameter 1 inch. Remains of gold lacquer. Donald Edward decal and remains of Green Label sticker. Spray nozzle with an integrated fast-fill valve controlled by a nipple shaped component (left) which has a small rubber washer. It is held in with a perforated screw. Rose nozzle. Back-to-back leather cup washer pistons. Piston rod is solid brass $^{5}/_{16}$ inch in diameter. Spring on piston rod. There is no collar on the handle end of barrel.

Above :- [372] {2} Barrel length 20 inches and diameter 1 inch. Purser type drip protector 5 inches long. Spray nozzle with an integrated fast-fill valve controlled by a cone shaped component held in with an open screw (see left). Rose nozzle. Back-to-back leather cup washer piston. Piston rod is a brass tube $^{7}/_{16}$ inch in diameter. Collar on both ends of barrel. Possibly model 29.

Donald Edward (Birmingham) Ltd

Above :- [441] {2} Barrel length 19 inches and diameter 1 inch. Purser drip preventer 5 inches long. No manufacturer's details. Spray nozzle with an integrated fast-fill valve controlled by a cone shaped component held in with a spring clip (left). Rose nozzle. Back-to-back leather cup washer pistons. Piston rod is a hollow tube $^{7}/_{16}$ inch in diameter with a spring. Similar to the sprayers shown above and below, but with the nozzle valve held in using a different method. Remains of gold lacquer finish. Plain cardboard box.

Above :- [246] {2} Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 5 inches long. Remains of Donald Edwards decal and green label sticker. Spray nozzle with an integrated fast-fill valve controlled by a cone shaped component held in with a fixed bar. Rose nozzle. Back-to-back leather cup washer pistons. Hollow piston rod $^{7}/_{16}$ inch in diameter. Similar to the sprayer shown above, but with the nozzle cone held in using a different method. Gold lacquer finish.

Above :- [567] {2} Model 20A. Barrel length 16 inches and diameter 1 inch. Donald Edwards box but no manufacturer's marks on the actual sprayer. Spray nozzle with an integrated fast-fill valve controlled by a nipple shaped component held in with a soldered bar. Rose nozzle. Back-to-back leather cup washer piston. Piston rod is a solid brass $^{5}/_{16}$ inch in diameter. There is a collar on the front end of the barrel onto which the nozzle screws, but the barrel end cap screws directly onto the barrel.

Donald Edward (Birmingham) Ltd

Above :- [193] {2} Sprayers No. 36. Barrel length 16 inches and diameter 1 inch. Marks where decal and green label sticker once were. Spray nozzle with a separate fast-fill valve controlled by a nipple-shaped component. Solid brass piston rod $^{5}/_{16}$ inch in diameter with spring. Rose nozzle. Back-to-back leather cup washer piston. Originally with a gold lacquered finish. Note the fast-fill valve points directly ahead so that the sprayer sprays at an angle. Both ends of the barrel have collars.

Above :- [519] {2} Sprayers No. 36 and box. Barrel length 16 inches and diameter 1 inch. Decal and green label sticker. Spray nozzle with a separate fast-fill valve controlled by a ball. Solid brass piston rod with a diameter of $^{5}/_{16}$ inch with spring. Buffer washer. Rose nozzle. Back-to-back leather cup washer piston. Gold lacquered finish. Note the fast-fill valve points directly ahead so that the sprayer sprays an angle. Barrel has a collar for the nozzle but the barrel end cap screws directly onto the barrel.
Above :- [295] {2} Barrel length 20 inches and diameter 1 inch. Remains of decal

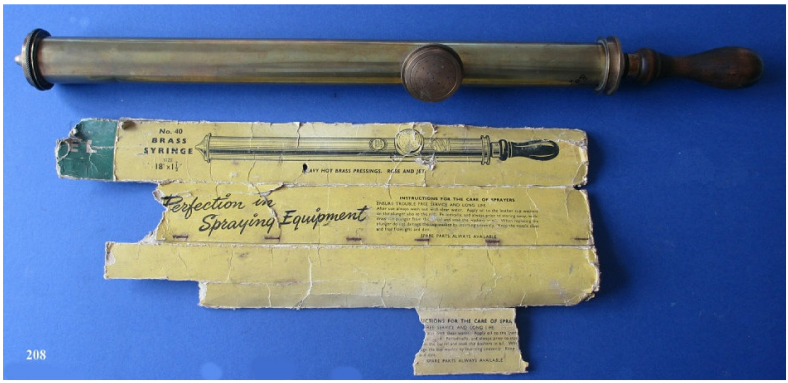
and green label sticker. Spray nozzle with a separate fast-fill valve controlled by a ball. Spring on piston rod and rubber buffer. Rose nozzle. Back-to-back leather cup washer piston. Piston rod is a hollow tube $^{7}/_{16}$ inch in diameter. Originally it had a gold lacquered finish. Unmarked bend. Possibly model 25.

Donald Edward (Birmingham) Ltd

Above :- [298] {2} Barrel length 20 inches and diameter 1 inch. Spray nozzle with a separate fast-fill valve controlled by a nipple shaped component (left) held in with a brass spring clip. Spring on piston rod. Rose nozzle. Back-to-back leather cup washer piston. Piston rod is a hollow tube $^{7}/_{16}$ inch in diameter. Unmarked bend. Both ends of the barrel have a collar.

Above :- [145] {2} Barrel length 18 inches and diameter $1^{7}/_{16}$ inches. Rose and jet nozzles. Rubber buffer. Piston rod is hollow tube $^{7}/_{16}$ inch in diameter. Spring on piston rod. Piston is leather back-to-back cup washers. Gold lacquered finish. The barrel has collars on both ends.

Above :- [184] {2} Barrel length 18 inches and diameter $1^{7}/_{16}$ inches. Rose and jet nozzles. Rubber buffer. Piston rod is hollow tube $^{7}/_{16}$ inch in diameter. Spring on piston rod. Piston is leather back-to-back cup washers. Gold lacquered finish. The barrel has collars on both ends.



Above :- [208] {2} Donald Edwards No. 40 syringe. Barrel length 18 inches and diameter $1^{7}/_{16}$ inches. Rose and jet nozzles. Rubber buffer. Piston rod is solid brass $^{5}/_{16}$ inch in diameter. There is a spring on the piston rod. Piston is leather back-to-back cup washers. Gold lacquered finish. Part of box. Both ends of the barrel have a collar.

Donald Edward (Birmingham) Ltd

Above :- [224] {2} Barrel length 16 inches and diameter ⅞ inch. Decal and remains of Green Label sticker. Gold lacquer finish. Fixed spray nozzle with integrated fast-fill valve (left). Solid brass piston rod ¼ inch in diameter. It has a spring. Back-to-back leather cup washer piston. Possibly model 21.

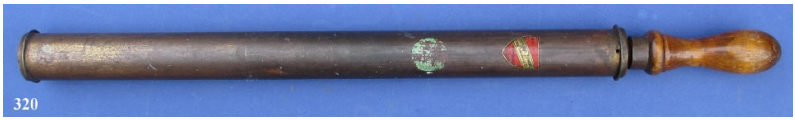
Above :- [575] {2} Barrel length 16 inches and diameter ⅞ inch. Fixed spray nozzle with integrated fast-fill valve (as [192] below). Solid brass piston rod ¼ inch in diameter. Spring on piston rod. Back-to-back leather cup leather washer piston. Fixed spray head and no collar on the handle end of the barrel.

Above :- [192] {2} Donald Edwards No. 19 sprayer. Barrel length 16 inches and diameter ⅞ inch. Fixed spray nozzle with integrated fast-fill valve (left). No collar on handle end of barrel. Rubber buffer. Solid brass piston rod $^{5}/_{16}$ inch in diameter with spring. Back-to-back leather up washer piston. Gold lacquer finish.

Above :- [11] {2} Donald Edwards No. 19 sprayer. No manufacturer's marks. Barrel length 16 inches and diameter ⅞ inch. Fixed spray nozzle with integrated fast-fill valve as [192] above. Solid brass piston rod ¼ inch in diameter with spring. Back-to-back leather up washer piston.

Donald Edward (Birmingham) Ltd

Above :- [528] {2} Barrel length 18 inches and diameter $1^{7}/_{16}$ inches. Fixed rose nozzle. Solid steel piston rod $^{5}/_{16}$ inch in diameter with spring. Rubber buffer. back-to-back cup washer piston. Gold lacquered. Poor quality and probably late 1950s or early 1960s. There are no collars.



Above :- [320] {2} Barrel length 18 inches and diameter $1^{7}/_{16}$ inches. Fixed rose nozzle. Solid steel piston rod $^{5}/_{16}$ inch in diameter with spring. Back-to-back cup washer piston. Remains of gold lacquer. Poor quality and probably late 1950s or early 1960s. No collars. Possibly model 54.

Above :- [442] {2} Barrel length 7 inches and diameter $^{11}/_{16}$ inch. Fixed spray nozzle not with fast-fill valve. Solid piston rod. Chromed brass $^{3}/_{16}$ inch in diameter with a spring. Back-to-back cup washer piston. Chrome plated with ring handle. Designed for misting indoor plants. Collar only on nozzle end of barrel. Possibly a version of model 14.

Self Supplying Sprayers

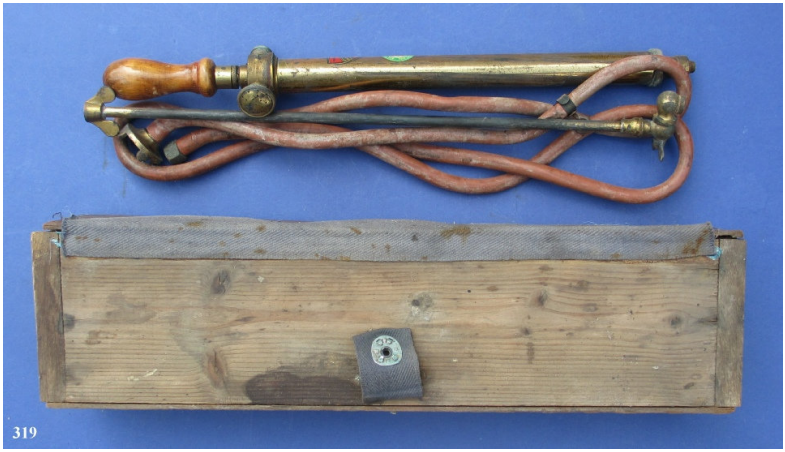
Donald Edwards self supplying sprayers are single action spraying only on the push stroke. They had a ball valve on the piston and a valve at the front of the barrel. All would have been supplied with a hose and a strainer incorporating a ball valve. The hose and strainers are often missing. A lance, swivel spray nozzle, rose nozzle and jet nozzle were probably provided as standard.

Above :- [309] {2} Self supplying. Strainer with ball valve. Single action spraying only on the push stroke. Lance with swivel nozzle. Rose and jet nozzles. Barrel length 12 inches and diameter 1 inch. Remains of gold lacquered finish. Solid brass piston rod. Piston ball valve with the ball held in with a split pin. Decal. Front ball valve. Piston is a forward facing leather cup washer.

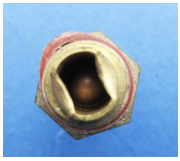
Donald Edward (Birmingham) Ltd

Above :- [905] {2} Spraying Outfit. Self supplying sprayer with box. Missing the hose. Single action spraying only on the push stroke. Lance with swivel spray nozzle. Rose and jet nozzles. The strainer would have had a ball valve. Barrel length 12 inches and diameter 1 inch. Gold lacquered finish. Solid brass piston rod. Piston ball valve with the ball held in with a split pin. Front ball valve but with ball missing. Decal and Green Label sticker. Piston is a forward facing leather cup washer.

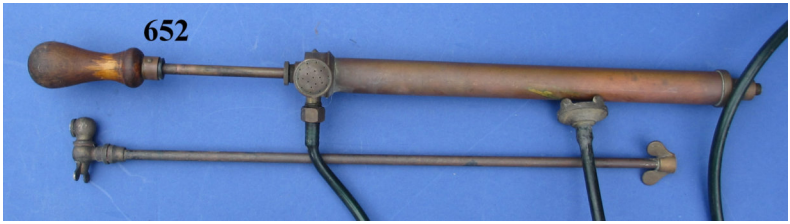
Donald Edward (Birmingham) Ltd



Above :- [319] {2} Self supplying sprayer with probably a home made box. The rubber hose on this suggests it is early. Single action spraying only on the push stroke. Lance with swivel spray nozzle. Rose and jet nozzles. Strainer with ball valve. Barrel length 12 inches and diameter 1 inch. Gold lacquered finish. Solid brass piston rod. Piston ball valve with the ball held in with a split pin. Front ball valve (see left). Decal and Green Label sticker. Piston is a forward facing leather cup washer.



Above :- [91] {2} Self supplying sprayer. Missing hose and strainer. Single action spraying only on the push stroke. Lance with rose nozzle. Barrel length 12 inches and diameter 1 inch. Gold lacquered finish. Solid brass piston rod. Piston ball valve with the ball held in with a split pin. Decal and Green Label sticker. Front ball valve.



Donald Edward (Birmingham) Ltd

Above :- [652] {2} Self supplying sprayer. Plastic hose. Strainer with ball valve. Single action spraying only on the push stroke. Lance 16 inches long. Swivel nozzle. Rose and jet nozzles. Barrel length 12 inches and diameter 1 inch. Solid brass piston rod. Piston ball valve with the ball held in with a split pin. Remains of decal. Front ball valve in which the ball is not retained when the front fitting is removed. May have been gold lacquered, but little remains. Piston is a forward facing leather cup washer.

Small Pneumatic - Model 300 Super Pressure Sprayer

Above :- [370] {1} Model 300 - Donald Edwards decal and Green Label sticker. Container height 6 inches and diameter 4 inches. Capacity 1½ pints. Spray nozzle. Lever action on/off control. Plastic plunger knob and plastic handle on the container. Internal barrel length 5 inches and diameter ⅞ inch. Single cup washer piston. Solid brass piston rod ¼ inch in diameter.

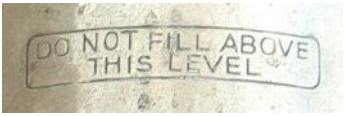
Above :- Different ways of showing maximum fill line.

Donald Edward (Birmingham) Ltd

Right :- The barrel and piston. Plunger rod knobs of different colours and shapes are known.

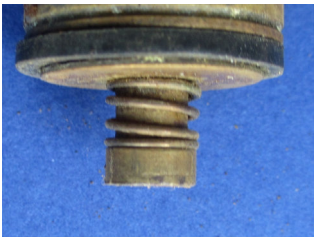
Right :- The valve. The spring and plug (left) fit into the fitting right which screws onto the end of the barrel. Pressure from the plunger works against the spring moving a rubber stop downwards so it uncovers a hole allowing the pressurised air into the container.

Right :- The "Do Not Fill" line can be a decal or can be embossed in the brass.



Right :- Example of a piston knob of different colour and shape.

Donald Edward (Birmingham) Ltd



Above :- [991] {4} Small pneumatic. Container diameter 4 inches and height 4 inches. Capacity about 1 pint. Pump barrel 4 inches in length and 1 inch in diameter. Leather cup washer. Spring on piston rod. Valve is spring loaded. Nozzle fixed spray. Label is not known from elsewhere which suggests that this sprayer is a later model.

Donald Edward (Birmingham) Ltd

Double Action (Solo type) Sprayers

Right :- [340] {3} A double action self supplying sprayer with rear feed and output through a hollow piston rod. It does not have an air chamber. Green Label sticker. This is the type of sprayer originally produced by Solo Sprayers Ltd. Missing the hose and a strainer which probably had a valve. Spray nozzle. Probably originally supplied with a lance. Possibly model 200.

The main barrel is 14 inches long and ¾ inch in diameter. The piston rod which provides the outlet is ½ inch in diameter. Both are made of brass.

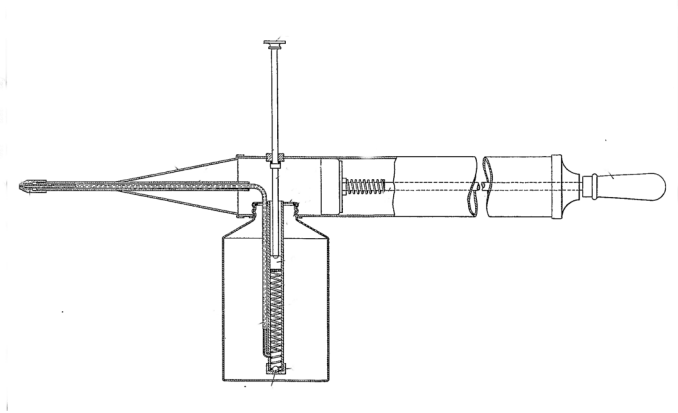
There is a ball valve where the hose connects to the barrel and one in the piston rod.

Left :- The piston.

Below :- The inlet valve.

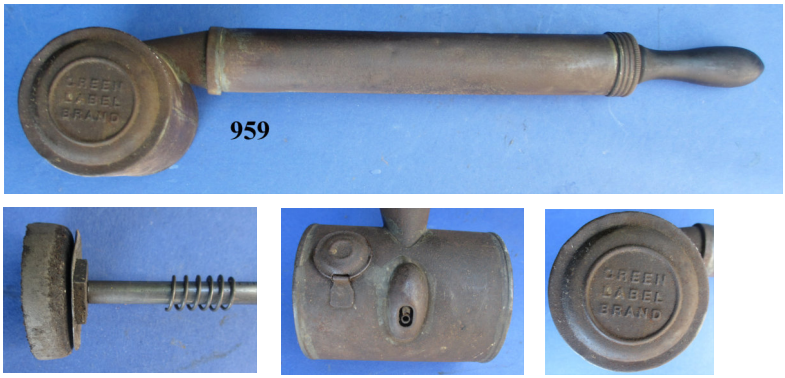
Donald Edward (Birmingham) Ltd

Patent Adjustable Vaporiser



Above :- Drawing of sprayer described patent GB473217A dated 8 October 1937. An actual sprayer which implements this is not known. A ball valve at the foot of the delivery tbe opens on the pull stroke, Liquid is drawn into the delivery tube through this valve. On the push stroke the valve closes and liquid is forced through the delivery tube and out through the nozzle. The amount of air mixed with liquid is controlled by the plunger.

Tin Plate Vaporiser



Above :- [959] {4} Tin plate sprayer which uses the venturi effect. Green Label Brand embossed on the end of the container. Capacity 1 pint. Barrel length 10 inches and diameter 1¼ inches. Single forward facing leather cup washer. Cap lifts up but can't be fully removed. Originally enamelled dark green.

Donald Edward (Birmingham) Ltd

Part of the "DRON-WAL" Works at Birmingham, England

Birmingham Daily Gazette - Monday 03 February 1930

NEW COMPANIES. Donald Edward (Birmingham), Ltd. - Capital £1,000. Wire workers, iron, steel and brass founders, manufacturers and dealers in all kinds of wire and metal goods and hardware, sellers of machine tools and accessories, gas stoves and burners, etc. Directors: D. N. Walker-Pitt, The Firs, Birmingham Road, Wylde Green, Birmingham; R. Horseman, 148, Edmund Street, Birmingham. Registered office: Britannia Works, Price-street, Birmingham.

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Chapter 18

Elso Products Ltd

Elso Products Ltd

Elso Products Ltd - 151 Charles Henry Street, Birmingham 12. Manufacturer of spraying machines.

The company seems to have started around 1939 and was operating until at least 1945. The owner may have been a Mr Cotteral as there is a personal column newspaper entry dated 7 February 1944 where the staff have thanked Mr Cotteral (or Cottrell) for a visit to the pantomime. There are various adverts for staff required in 1939 and in 1943 and a further thanks given by staff in January 1945 for Christmas holiday pay and a visit to the pantomime. Kelly's directory of Birmingham has an entry in 1940.

The only sprayer I am aware of is pictured to the right. The piston consists of back-to-back cup washers and the manufacturer's details are in the form of a decal (transfer). This suggests that it may be post WW II.

Right :- [508] {4} Brass syringe sprayer. Barrel length 18 inches and diameter ⅞ inch. Piston is back-to-back leather cup washers. There is a spring on the piston rod. Fixed spray nozzle with an integrated fast-fill valve (see below). Piston rod is hollow brass ⅜ inch in diameter. The spray head is fixed and the barrel end cap screws onto a thread on the barrel.

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Chapter 19

Four Oaks Spraying Machine Co

Four Oaks Spraying Machine Co

The Four Oaks Spraying Machine Co - Belwell Lane, Four Oaks, Sutton Coldfield.

Introduction

With most sprayer manufacturers what we know about their products comes from examination of surviving sprayers plus minimal documentation. With the Four Oaks Spraying Machine Co there is no shortage of documentation, especially for the later years of the company's operation. What is clear is that relatively few examples of their products survive. Those that do, tend to be later examples of the most popular models. This is to be expected as the larger sprayers used wooden or galvanised containers which have a limited life. Many were probably not produced in large volumes. My aim is to document what is known about the models they did produce, looking in detail at those where I have access to a surviving example.

History - by Adrian Lanchester-Hale

The following accounts is taken directly from 'Graces Guide'.

The Four Oaks Spraying Machine Co (FOSMC) was situated in Belwell Lane, Four Oaks, Sutton Coldfield. On its site are now a former Waitrose store (closed 2020) and the Lloyds British building with a Wine Bar on the ground floor. It was one of two spraying machine manufacturers in Sutton Coldfield; the other being J.A. Southerton, who used the trade name Martsmith, previously Martineau and Smith of Birmingham, the site of this manufacturer is now that of a Porsche dealer.

The founder of the FOSMC, William Charles George Ludford, had been born in 1867 to William and Elizabeth Ludford; his father born in Middlesex, his mother was from Sutton Coldfield. He purchased Fernlea, a house in Belwell Lane, just to the Mere Green side of the railway bridge in perhaps the late 1880's or early 1890's, his name appearing on the 1891 Burgess Roll and with his family on the 1891 Census, which recorded his occupation as an accountant's clerk.

A sprayer machine catalogue from the 1950s, also one produced in 1968, indicates that the company was established in 1895.

Four Oaks Spraying Machine Co

From information taken from a document contained within a Company Microfiche record received from Companies House Cardiff, in September 1898 W. C. G. Ludford purchased a plot of land, from a John Jones, in Belwell Lane situated next to his house, Fernlea, upon which he subsequently built his works and some offices fronting Belwell Lane.

On 26th February 1902, W. C. G. Ludford submitted a Patent Application GB190204825, in respect of Improvements in Garden and Other Syringes, that essentially patented the design for an undentable syringe, the Patent was accepted on 29th January 1903, this would suggest that these may have been produced and sold from mid 1903 onwards.

While I (Adrian Lanchester-Hale**)** was at the Canwell Show in August 2006 displaying a number of sprayers, a former employee of the FOSMC advised me that when W. C. G. Ludford was returning home one evening on the train from Birmingham to Four Oaks, he came across the idea while toying with some corrugated card packing with him. He realised that if turned with the corrugations out then the central working barrel would be protected.

Plans submitted to the Borough of Sutton Coldfield in May 1911, ref no 2290, indicated the intention of WCG L to construct a single storey office block, 42' x 20', on vacant land to the rear of buildings that fronted Belwell Lane. Work continued and various documents show completion of various stages of work, the one relating to the Form of Notice as to Drains, signed off on 19 March 1912, indicated that the company was known as The Four Oaks Undentable Syringe Co, interestingly this matches the name shown on some early undentable syringes. A number of Undentables in my collection and on others that I have seen picture of, also had the name The Four Oaks Nursery Co shown on some of their parts. (*Additional Information - A number of Newspaper reports of 1909 and 1910 refer to Four Oaks Undentable Syringe & Spraying Co*)

Further plans were submitted to the Borough of Sutton Coldfield on March 26th 1912, ref no 2373, in respect of the construction of a 2 storey Store and Packing Warehouse, approximately 41' x 32', within the vacant area on site.

Subsequent planning applications Ref 2777 in May 1918 together

with Refs 2858 and 2859 in September 1919, indicated that the business was expanding such that further space was required for the business to continue.

In 1909 he purchased the leases of some of the properties on the opposite side of Belwell Lane, subsequent acquisitions took place in later years. In time these led to the FOSMC owning the leases of the properties 1 through to 17 Belwell Lane.

1909 saw a number of spraying machines entered into a demonstration of spraying machines, liquids and liming machines held on Thursday April 22nd and organised by the Wisbech and District Fruit Growers' Association. The prizes to be awarded were six silver gilt and six silver medals and other firms taking part included Benton and Stone, Birmingham; Cooper & Nephew, Berkhamsted; Strawson & Son, Reading; Drake and Fletcher, Maidstone.

Four competitions were arranged; Class A - Knapsack Sprayers for liquids; Class B – Sprayers on wheels for liquids; Class C – Limewash Sprayers; Class D – Knapsacks for distributing dry powders. The field opened at 10.30 a.m and half an hour later when judging commenced reports indicated that there was a good attendance. The Four Oaks Spraying Machine Company succeeded in being awarded the silver gilt medal for Class A with their Knapsack sprayer for liquids.
The judges noted that the machine shown by them was exceedingly simple in construction and very well made.

A selection of their own nozzles were used and the 'Marvellous' nozzle was very much admired, giving a large spray with good force. While they were not successful in any of the other classes contemporary press reports mentioned their entry in Class C with two machines, the one with the thirty gallon tank being their best.

Entry into the Northern Fruit Congress competition in October 1910, held at Hexham, produced two gold medals.

By 1911, the business was doing well enough to support advertisements in such publications as the Estate Book, issued by the Country Gentlemen's Association. The 1911 advertisement boldly states that 'The "Four Oaks" Syringes Spraying and Limewashing Machines are acknowledged by all users to be the

best the world has ever seen. It featured their Undentable Syringe, a range of syringes that were sold with a three-year guarantee against indentation of their working barrel; the working barrel is wrapped within a corrugated brass tube with the corrugations being on the outside. Prices for these in 1911 ranged from 12s 6d for a No 9 which was one-and-one-eighth in. by 20 in., to a No 5, best quality, teak handled example 1¾ by 20 in., 32s!

Also featured was The “Four Oaks” Patent Knapsack Sprayer, No 101. This was a sprayer, with a capacity of 3¼ gallons, was carried on the back with an operating arm on one side and a lance at the end of a 3-foot best India-rubber tube, fitted with the “Four Oaks” Patent spraying Nozzle and short brass tube with a stop cock. This cost 45s and the advert advised that in addition to spraying fruit trees and trees of all kinds, vines, hops, Coffee, Tea and Cocoa, also Potatoes and other crops, it could also be used for Limewashing.

In 1913 W. C. G. Ludford submitted a further Patent application which was accepted in July 1914 - ref 1913016492 for improvements in the construction of a Spraying Machine.

Limewashing not surprisingly featured heavily in their range of equipment, as this was a regular activity to be undertaken and often very laborious. The spraying machines sold ranged from their “Farmer” Pattern, a 4 gallon limewasher, a bucket with powerful brass stirrup pump built into it and could be used for spraying any liquid, including limewash, costing £3 2s 6d; to eventually in the 1950’s of two mechanised sprayers the “Self Propelled”. This initially featured a two 12½ gallon drums with horizontal spray bars and lances. Powered by a single cylinder 4-stroke Villiers industrial engine coupled to a three-speed Albion motorcycle gearbox and double reduction chain drive to the single axle, it required minimal effort to operate. The liquid was drawn simultaneously from both tanks and passed through a filter before entering a Brook pump driven via a V-belt directly off the engine and thence via an adjusting valve to the spray bars at the front of the machine. The liquid could be delivered either in a horizontal style across a 10 foot spread of the bars could be altered to deliver it vertically to bushes etc. In 1959 the cost was £135. Later a further version was built offering a total capacity of 55 gallons but based on the design essentially of that of the 25 gallon example. This would cost £218 10s 0d.

Four Oaks Spraying Machine Co

1931 Saw a further Patent Application by WCG Ludford, accepted1932, patent Ref 367172 this resulted in the introduction of a new Sprayer known as The Marvel.

The 1950's also saw the start a range of both tractor mounted sprayers and tractor trailer units being offered with tank capacities ranging from 40 to 60 gallons for the tractor mounted and 40 to 300 gallons for the tractor trailer units

The range of machines they offered was to say the least extensive, on page 1 of Catalogue number 35A, date estimated to be around 1930 as I have an invoice from this time dated October 25th 1930 with a price for an identifiable sprayer whose price on invoice matches that as in the price list, Introduction, reference is made on this insofar that they claimed to 'Be by far the largest actual manufacturers of sprayers in Great Britain'.

Catalogue 35 indicated that they had by that time through competitions entered they had received over 60 Gold and Silver Medals. Competitions they were successful at included:

- Wisbech Fruit Growers Association Spraying Demonstration April 22nd 1909 Silver Gilt Medal for Knapsack Sprayer
- Bath and West Rochester 1910 First Prize for Knapsack Sprayers
- Sussex Agricultural Show 1910 Silver Medal for Knapsack Sprayers
- Hexham Fruit Congress October 1910 2 Gold Medals
- Royal Horticultural International Exhibition, 1912, Silver Cup for Sprayers
- RHS Trials of Spraying Machines and Syringes, Wisley Grounds, April 23, 1913, Highest Awards for Spraying Machines, Garden Syringes, Spraying Nozzles and Special Award for Knapsack Sprayers
- International Rubber Exhibition, London 1914 - 1 Gold Medal

While nearly all of their spraying machine patterns were named a number the names given to a number of the models they produced were local; i.e. “Yenton”; “Weeford”, “Shenstone”, “Streetly”, "Maney" and "Vesey".

The manufactory created by WCG Ludford was situated initially

next door to his house Fernlea, photographs show a building with ivy or creeper growing up the front, the building had the name in large gold coloured letters just under the first floor windows. This was originally a four gabled building though photographs taken in the early 1970s show a fifth gable over a garage door entrance with the addition of Ltd after the name.

As mentioned earlier an application to Companies House a while ago resulted in a microfiche of statutory documents supplied. This has revealed some of the history of the FOSMC after WWII. In 1950 a document was drawn up that resulted in the change of trading style of the company from being solely owned by WCG Ludford, to that of a Limited Company with the directors being WCG Ludford and his sons Leslie Brentnall Ludford and Lawrance Ludford. At this time WCG was in his 83rd year and given that he passed away early in 1951 this change may well have been him putting things in order while able to. He is buried with his wife who predeceased him in 1937, aged 77, in the graveyard at Canwell, Staffordshire. It appears as a consequence of his death that the day to day running of the business was taken over by his sons Leslie and Lawrance and the business continued onwards. Production of some sprayers was moved to Southern Ireland and a company called Sprayers Ltd was created in order to manufacture various models under licence. Outwardly the only difference to sprayers manufactured there was a different plate affixed to the sprayers.

The Copy of a document found on a website of the Irish government, that resulted from a question in the Irish parliament as to the level and number of companies set up in Eire with foreign investment, suggests that this took place between 1st January, 1955 to 31st March, 1957. With the introduction of plastics into industry in the late 1950's and throughout the 1960's together with a more disposable society developing this inevitably had a detrimental effect on the company. Added to this as many of the products were designed for large estates and country gardens, which too had seen a large decline after the war, the once profitable business appeared to falter. New companies were coming along, Hozelock appeared in 1959. Leslie Ludford passed away in 1959. The accounts of year ended 31 December, 1971 show the result with a net loss for the year of £1581.79 to which had to be added the cumulative loss from previous years of

Four Oaks Spraying Machine Co

£21,022.31, resulting in a debit balance of £22,604.10 carried forward. The report also reported the impending sale of the freehold premises comprising of the works and offices of the Company, with a book value of £1719 for the sum of approximately £45,000. 1972 saw the trading situation appear to deteriorate further with a loss of £4569.27; 1974 saw the death of Lawrance Ludford and his son E.N Ludford become a director. The 1974 Annual Report confirmed that "The Company's Works and Offices situated on the north side of Belwell Lane were sold in August 1972.

During 1975 the freeholds of some of the properties on the south side of Belwell Lane were sold, these included the remaining assembly shop and offices at 11 Belwell Lane. The 14th January 1977 saw the effective closure of the FOSMC as a manufacturing concern as the Company's stock in trade was sold to the purchaser of the company's business for £7,750.00. Investigation has revealed that The Willcox Group purchased the business, they were manufacturers of machine tools and machine tool lubrication systems with premises in Kings Road Tyseley, Birmingham. One of their subsidiaries was The Phillip B Waldron Co. Ltd, using the brand name Dronwal. This date also saw the cancellation of the Company's VAT registration by H.M Customs and Excise. The only income then became that derived from the letting of certain of its remaining Freehold properties combined with ground rents receivable. This continued until 24th March 1986 when the remaining freehold investment property was sold for the sum of £76,500, after selling expenses were deducted. This drew the line under what had been probably the most well known brand of spraying machines made in the Midlands, possibly the country maybe the world. This was confirmed in December 1986 when the directors recommended to the members that the company be placed into voluntary liquidation, this took place and the process was completed with the company being fully wound up on 15 September 1987. What remains is a wonderful heritage based upon the surviving examples of their products together with the detailed literature that was used in promoting the business while trading.

Four Oaks Spraying Machine Co

Patents

Full details of patents can be found in the Espacenet Patent Search Web Site.

GB190124959A dated 13 November 1902 **-** William Charles George Ludford. Swivel nozzle.
GB190204825A dated 29 January 1903 **-** William Charles George Ludford. UNDENTABLE.
GB190220051A dated 4 December 1902 - William Charles George Ludford. Swivel nozzle. Second type.
GB190221419A dated 27 November 1902 - William Charles George Ludford. Spray nozzle with a side entry fast-fill valve.
GB190816073A dated 11 May 1908 - William Charles George Ludford. Bamboo cane extension.
GB191111472A dated 13 May 1912 - William Charles George Ludford. Spraying machine for going between rows. Pump driven by belt from wheel.
GB191123540A dated 20 June 1912 - William Charles George Ludford. Knapsack pump.
GB191123541A dated 13 June 1912 - William Charles George Ludford. Knapsack pump.
.**GB191123638A** dated 13 June 1912 - William Charles George Ludford. Knapsack pump.
GB191228527A dated 16 October 1913 - William Charles George Ludford. Separate agitator.
GB191316492A dated 2 July 1914 - William Charles George Ludford. Bucket pump.
GB184907A dated 30 August 1922 **-** William Charles George Ludford. Charging machine for knapsack sprayers.
GB191576A dated 18 January 1923 - William Charles George Ludford. Inbuilt charging for knapsack sprayers (WEEFORD).
GB281825A dated 15 December 1927 - William Charles George Ludford. Double action sprayer, with an inner barrel.
GB367172A dated 18 February 1932 - William Charles George Ludford. Patent for MARVEL sprayer.
GB373218A dated 17 May 1932 - Gilbert Edwin Bodkin and William Charles George Ludford. Flame thrower (BODKIN).
GB676461A dated 30 July 1952 - Four Oaks Spraying Machine Company Ltd. Knapsack sprayer internal pump and air chamber.
GB676557A dated 30 July 1952 - Four Oaks Spraying Machine Company Ltd. Lever controlled tap for use with lance etc.

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GB681730A dated 29 October 1952 - Four Oaks Spraying Machine Company Ltd. Allows lever pump arm to swivel.
GB692788A dated 17 June 1953 - Four Oaks Spraying Machine Company Ltd. Frame for holding pump.
GB709759A dated 2 June 1954 **-** Four Oaks Spraying Machine Company Ltd. Improvements to motorised sprayers.
GB744341A dated 1 February 1956 **-** Four Oaks Spraying Machine Company Ltd. Improvements to motorised sprayers.
GB744001A dated 25 January 1956 **-** Four Oaks Spraying Machine Company Ltd. Improvements to liquid tanks.
GB757733A dated 26 September 1956 **-** Four Oaks Spraying Machine Company Ltd. Improvements to motorised sprayers.
GB759626A dated 24 October 1956 **-** Four Oaks Spraying Machine Company Ltd. Improvements to motorised sprayers.
GB765218A dated 9 January 1957 **-** Four Oaks Spraying Machine Company Ltd. Improvements to pipe joints.
GB783436A dated 25 September 1957 **-** Four Oaks Spraying Machine Company Ltd. Mechanised charging system.
GB821823A dated 14 October 1959 **-** Four Oaks Spraying Machine Company Ltd. Self propelled steerable road vehicle.

Catalogues, Price Lists and Advertising

A number of price lists, catalogues and advertisements are known, but the date of these is not always clear. Some are associated with letters or other information which enables them to be dated. Otherwise, some idea of date can be obtained looking at the prices. Four Oaks catalogues were not produced on a regular basis. The same illustrations were used over many years, but are not detailed enough to reflect minor changes in external features and give no indication of changes internally. Catalogues do not necessarily reflect all the products manufactured.

There is some uncertainty over the dates of Catalogues 29 and 35A. Catalogue numbers may reflect the date first issued. Catalogue 35A was current in 1942 (letter dated 31 Jan 1942), but was issued before this as the letter mentions a 10% price increase. The reduced price list issued with some 35A catalogues may reflect a temporary reduction in the price of copper between 1935 and 1939.

Price lists and advertisements are included at the end of this chapter.

Four Oaks Spraying Machine Co

The documents I have available are listed below. Scans of documents shown in red are included at the end of the chapter.

Catalogues and Advertisements

Four Oaks Advertisement 1909. (In text).
Instructions for Limewashing machines 1912.
Advertisement ROYAL and DAIRYMAN 1911/1912
Advertisements and Illustration from Fruit Farming by Cecil H Hooper 1921.
Four Oaks Catalogue No.70 Gold Medal Fruit Spraying Machines circa 1927
Advertisement for WIZARD DE LUXE 1927.
Advertisement for DAIRYMAN and others 1927.
Advertisement for COLONIAL and others 1927.
Advertisement for BATTLE 1927.
Four Oaks Catalogue 29.
Benn's Encyclopaedia of Hardware 1930 (BENN 1930).
Four Oaks Catalogue 35 Revised Prices.
Four Oaks Catalogue 35A. [E7] Available pre 1942.
Four Oaks Catalogue 35A Price List (Extracted).
Advertisement 1935 - Knapsack and others.
Country Gentlemen's Association Annual Price Book 1937.
Country Gentlemen's Association 1938. (CGA 1938).
Advertisement 1938 - FARMFIELD (in text).
Advertisement 1938 - ATTACHABLE.
Advertisement 1938 - WIZARD and others.
Advertisement 1938 - MARVEL (in text).
Advertisement 1938 - STREETLEY and others.
Advertisement 1938 - WIZARD DE LUXE.
Iron Mongers Diary 1939 (IMD 1939). .
Iron Mongers Standard Catalogue (IMSC 1939) - Similar to Country Gentlemen's Association 1938, but with slightly higher prices. Date assumed around 1939.
Advertisement 1939 - Carter's Blue Book of Gardening.
Advertisement 1940 - BRIDGWATER and others.
Advertisement 1945 - KNAPSACK.
Iron Mongers Standard Catalogue - 1949 to 1951 (IMSC 1949).
Four Oaks Catalogue 1950 (Part).
Advertisement 1951 - BRIDGWATER and others.
April 1951 - Price List.
Country Gentlemen's Association 1953 (CGA 1953).
Four Oaks Catalogue 1954 - Original Price List and Revised Price List.
Country Gentlemen's Association Annual and Price Book 1959 (CGA 1959)
Four Oaks 1965 Selection Catalogue May 1965
Four Oaks 1968 Catalogue and Price List dated 1 January 1968
Four Oaks post 1968 Catalogue (probably early 1970s)

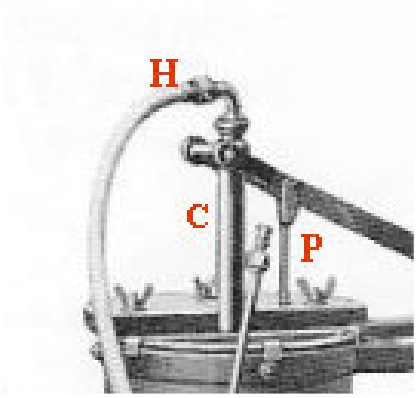
Invoices and Letters
1923 Letter.
1928 Invoice.
1930 Invoice.
1942 Invoice.
1954 Two Invoices.

Four Oaks Spraying Machine Co

Bucket and Tank (or Cistern) Sprayers and Stirrup Pumps

These are based either on the common pump or the force pump. It is not always possible from illustrations to determine which type of pump has been used.

With the common pump the hose (H) connects horizontally into the barrel a short distance from the barrel top. The piston rod (P) rises vertically from the barrel and has the handle or lever mechanism connected to it.



In the force pump the cylinder rising from the container is an air chamber (C) with a central output pipe. The output hose (H) connects to the top of this. The piston rod (P) connects to a force pump further down in the container.

The common pump sprayers are truly double action in that the force applied by the user powers the sprayer on both the push and pull strokes. It would appear that most of Four Oaks sprayers of this type have an air chamber. Air chambers even out any variations in the pressure being applied by the user, especially at the point where the user is changing the direction of the stroke.

Four Oaks Spraying Machine Co

Left :- [276] The pump from a Four Oaks bucket sprayer with the barrel (far left) and piston rod (right). Input is via a strainer and valve (bottom left). This has a ⅝ inch ball. Output is via the hose connection, The piston valve (bottom right) is controlled by a ½ inch ball. The barrel is held in the container by the bracket (far left centre). The barrel is 20 inches long and has an external diameter of 1 inch. The piston in this example is of the cotton reel type, but may vary and more recent models may use a downward facing leather cup washer. The piston rod is made of a brass tube with an external diameter of ¾ inch. The air in this will be compressed.

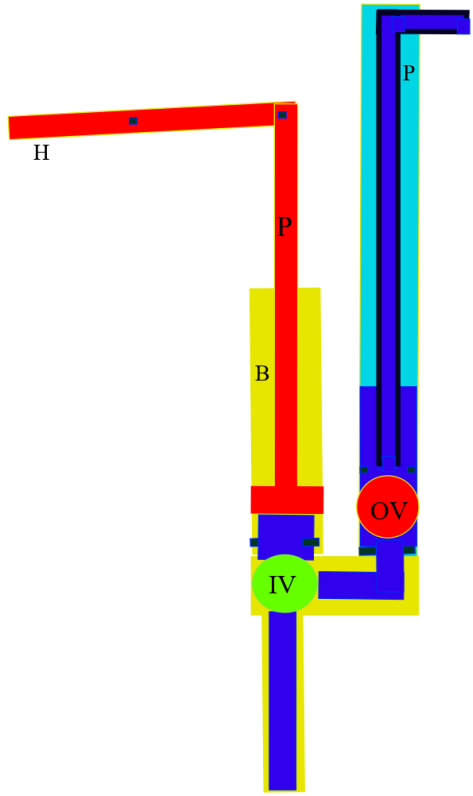
The pump is designed such that the piston rod takes up about half of the space within the barrel. This means that about half the volume of the barrel is sprayed on each stroke. About $^{1}/_{6}$ pint on each stroke.

Opposite the hose outlet is a holder for a different nozzle.

Left :- On some sprayers there is a bulbous air chamber immediately above the output hose connection.

Four Oaks Spraying Machine Co

Force pump sprayers rely on the air compressed during the down stroke to give a continuous spray on the up stroke. The larger Four Oaks sprayers work on this principle. In addition to the pump some have paddles connected to pump arm which keeps the liquid agitated during spraying. Typically, the valves are controlled by a brass ball. The piston is normally a leather cup washer.



Above :- Diagram of the implementation of a force pump with air chamber as used in larger sprayers. Handle (H) is used to move the piston rod (P) up and down. This causes the piston to move within the barrel (B). On the up stroke the input valve (IV) is open and the output valve (OV) is closed. Liquid is sucked into the barrel (B). On the push stroke with the piston moving downwards the input valve is closed and the output valve is open. Liquid is forced into the outlet tube and also into pressure chamber (P). The air above the liquid in the pressure chamber is compressed. This pressurised air continues to force liquid through the outlet during the up stroke giving a continuous spray.

Four Oaks Spraying Machine Co

Continuous and double action sprayers were particularly important when sprayers were used for applying limewash as this gives a more even finish. The container could be the shape of a traditional bucket or a more cylindrical shape. Galvanised steel was the most common material used for the containers, but some were made of oak for use where the chemicals used would have quickly corroded metal containers.

The common pump sprayers were most commonly used in bucket sprayers and stirrup pumps because they were lighter and took up minimum space. Patent GB191316492A dated 2 July 1914 by William Charles George Ludford is for a pump fixed to the side of the bucket. Bucket sprayers could either have 'T' shaped pumping handles or could use lever arms. Often, they had carrying handles and one did have a wheel. Some of the buckets had fluted sides for added strength. Some also had a stabilizer to hold down the container with a foot.

Stirrup pumps were based on the common pump and not provided with any container. The end of the pump barrel went into a container with the liquid (eg. a bucket) or there was an inlet hose (suction hose) which went into the liquid to be sprayed (eg. a pond or stream). While in use the pump was held in place by the user's foot on a stirrup, usually made of malleable iron. The SOUTHERN CROSS was similar but attachable to the user's own container.

The force pump sprayers were mainly used on the larger sprayers with one or more wheels. These always have lever arm handles. The ATTACHABLE is a force pump sprayer which the user could attach to any suitable container. The VESEY was a double force pump sprayer supplied on a trolley.

Accessories, including strainers, hoses, lances and nozzles were provided with the sprayers depending on their intended use. A wider range of additional accessories were also available including special nozzles and agitators. Many of the sprayers came with a spare parts kit. Sprayers with the same spare kits indicate that they use the same or very similar pump,

Mostly, the model names or 'Patterns' are used consistently over time, but there are a few instances where this is not the case.

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Four Oaks Spraying Machine Co

DAIRYMAN and DAIRYMAN DE LUXE

Capacity 6 gallons. Galvanised container. Brass strainer, six feet of hose with lance. Spraying and limewashing nozzle. The DAIRYMAN is a double action sprayer with a brass pump. The pump is of the standard double action type explained above.

The DAIRYMAN DE LUXE differs in that it has an air chamber and was supplied with an armoured hose.

Available for a long period of time. Documented from 1912 to 1968.

Four Oaks Spraying Machine Co

Below :- DAIRYMAN DE LUXE

Four Oaks Spraying Machine Co

FARMER and FARMER DE LUXE

FARMER - Earliest confirmed date 1917. Still available in 1959 but not after. It would appear that the FARMER was withdrawn and the FARMER DE LUXE sold as the FARMER. No air chamber.

FARMER DE LUXE - Earliest confirmed date 1927. Still available in 1968 but being sold as the FARMER.

Capacity 4 gallons. Galvanised container. Brass strainer. Six feet of hose with lance. Spraying and limewashing nozzle. Both are standard double action sprayers with brass pumps.

The FARMER DE LUXE has a bulbous air chamber above the hose outlet. In Cat. 29 and in Cat. 35A the FARMER DE LUXE is shown with a fluted bucket. However, in the CGA Annual Year Book 1937 the FARMER DE LUX has a plain bucket, as does the one in my collection. Fluted bucket versions without an air chamber are also known.

Below :- FARMER. Catalogue 29 and Catalogue 35A

Four Oaks Spraying Machine Co

FARMER [382] {2}

The sprayer pictured below appears to be a FARMER. The hose in this photograph is a replacement. Bucket height 12 inches and diameter 13" at top.

Four Oaks Spraying Machine Co

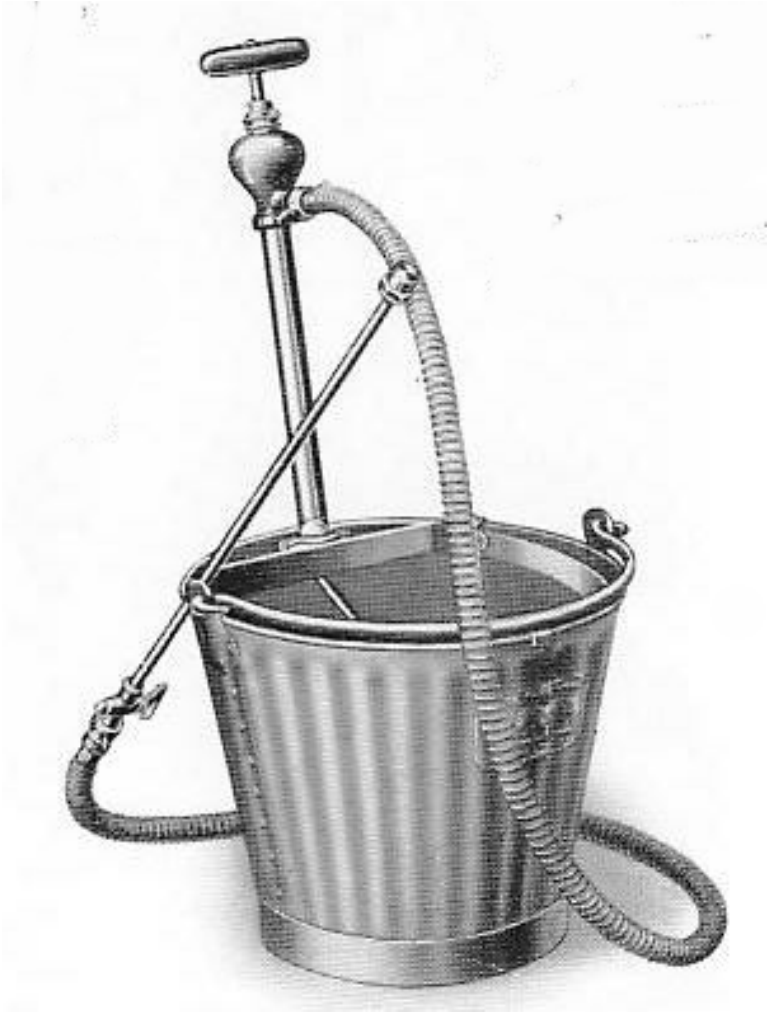
FARMER DE LUXE [382] {3}

The sprayer pictured below appears to be a FARMER DE LUXE the bucket is not fluted. The hose in this photograph is a replacement. Double action brass pump with a bulbous air chamber. Bucket height 13 inches and diameter 13 inches at top.

Four Oaks Spraying Machine Co

FARMER DE LUXE

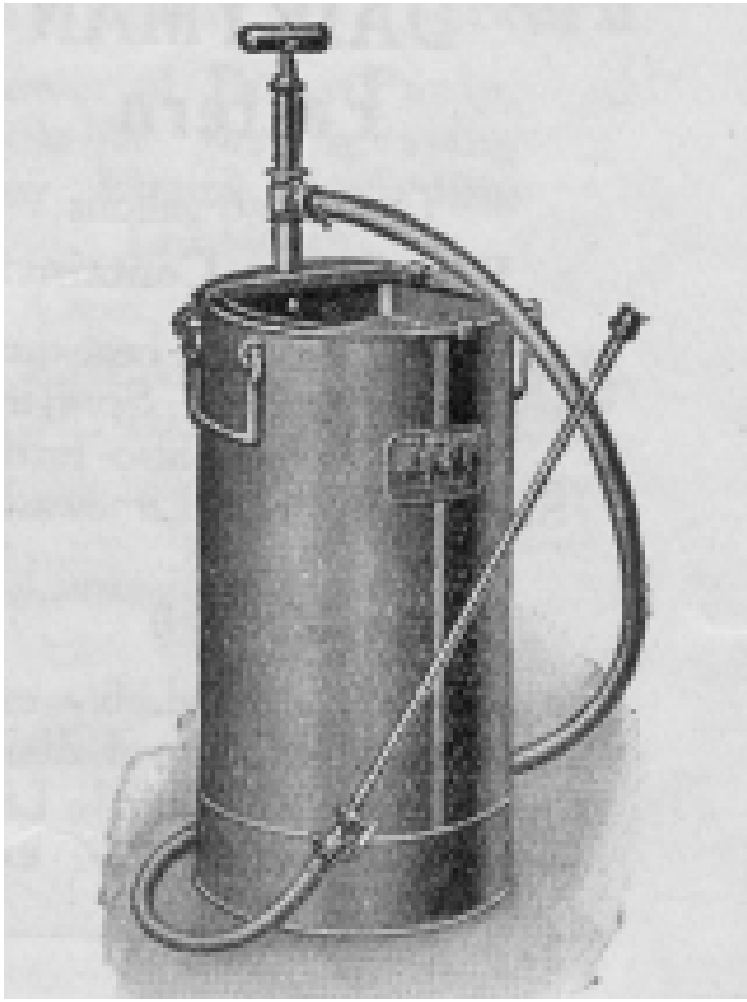
Fluted bucket, armoured hose and large bulbous air chamber.



Four Oaks Spraying Machine Co

WARWICK

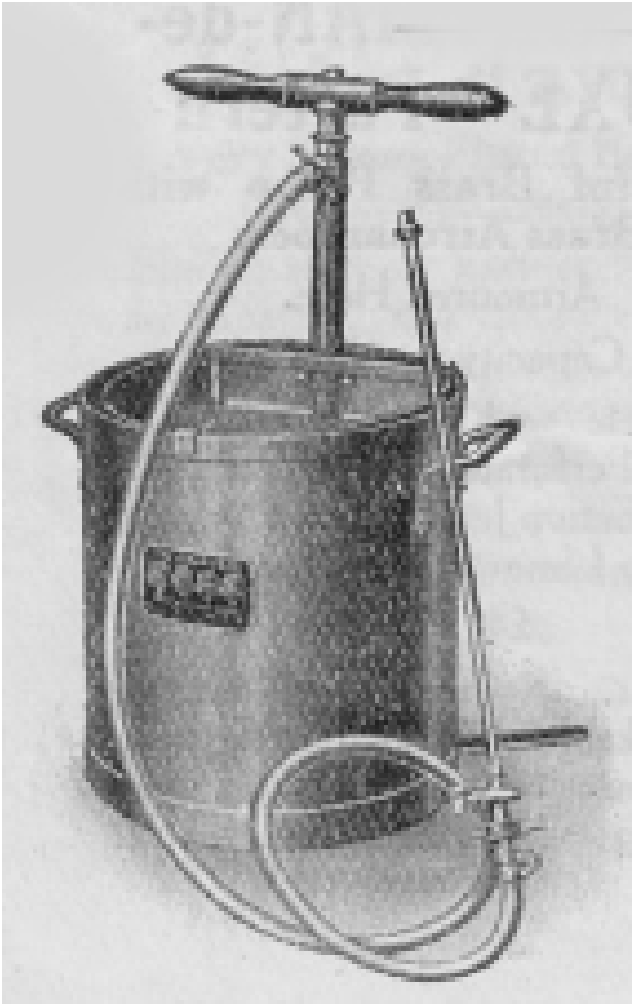
Earliest confirmed date 1917 and latest confirmed date 1937. Galvanised 6 gallon container, 6 foot of hose, strainer and brass lance. Drawings suggest that it uses the standard double action brass pump. Advertised for limewashing and spraying of low growing trees.



Four Oaks Spraying Machine Co

WISBECH

Earliest confirmed date circa 1917 and latest confirmed date 1937. Galvanised container capacity 6 gallons. The pump barrel is of the undentable type and the container is advertised as being especially strong. Double action, without an air chamber. Advertised for use where two people were available. Came with 6ft of hose, strainer, spraying nozzle and limewashing nozzle.



Four Oaks Spraying Machine Co

WIZARD and WIZARD DE LUXE

Earliest confirmed date for the WIZARD is Catalogue 22 (circa 1917) and latest confirmed date 1937. In the 1954 Catalogue what is called the WIZARD appears to be the WIZARD DE LUXE of previous catalogues.

Earliest confirmed date for the WIZARD DE LUX is 1927 and latest confirmed date 1937. In the 1954 Catalogue it becomes the WIZARD and remains available as the WIZARD in the 1968 Catalogue

.

Galvanised container capacity 6 gallons with 10ft of hose. Double action brass pump based on the common pump. Supplied with 10ft of hose and spraying and limewashing nozzles. The only difference between the WIZARD and the WIZARD DE LUXE appears to be that the DE LUXE has a fluted container. In the 1954 and 1968 Catalogues what was the WIZARD DE LUXE is being referred to as the WIZARD and has a fluted container.

Four Oaks Spraying Machine Co

WIZARD

Four Oaks Spraying Machine Co

UNIVERSAL

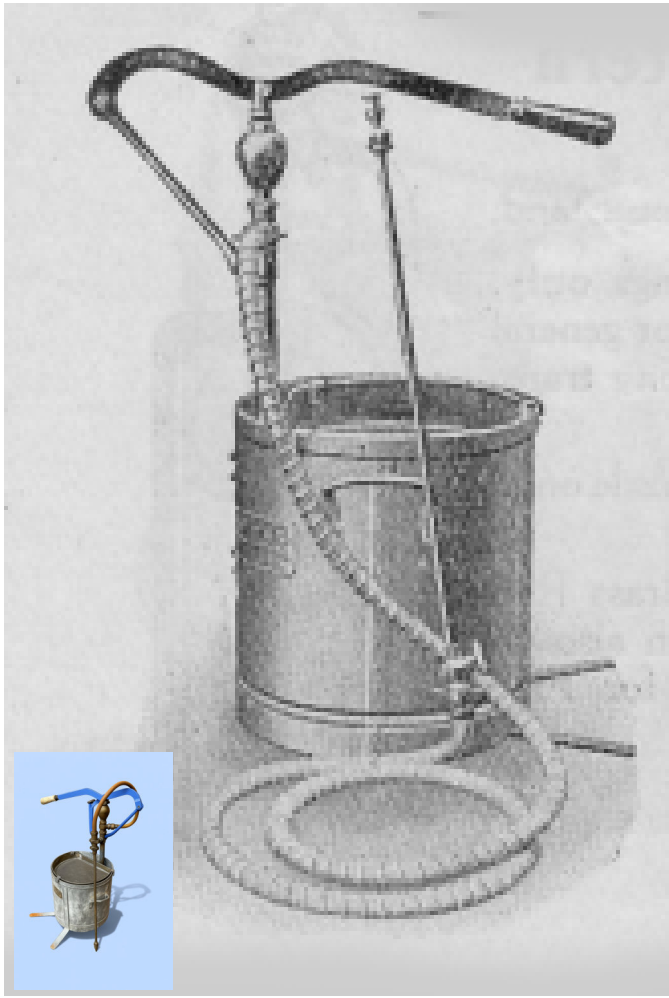
The UNIVERSAL is designed for use with the MOBILIZER truck. The truck could be adapted by the user to be used as a water carrier. The sprayer is advertised as being suitable for whitewashing, spraying and creosoting. It appears to use a pump and container similar to the ones used in the WIZARD, but with the pump mounted externally and a suction hose extending from the pump into the container. The container and pump could be removed from the truck so that this could be used as a simple sack truck. It is heavily promoted with two pages devoted to it in the 1954 Catalogue, and mentioned in the 1968 price list.

Four Oaks Spraying Machine Co

TRIUMPH

Earliest confirmed date1927 and latest confirmed date 1968.

Galvanised container capacity 6 gallons with 10ft of hose. Double action brass pump of the standard type, with a bulbous air chamber. Lever action pump. Supplied with strainer, 10ft of hose and spraying and limewashing nozzles. Swinging fulcrum which allows the handle to move to any position.



Four Oaks Spraying Machine Co

VICTOR 1, VICTOR 2 and VICTOR JUNIOR

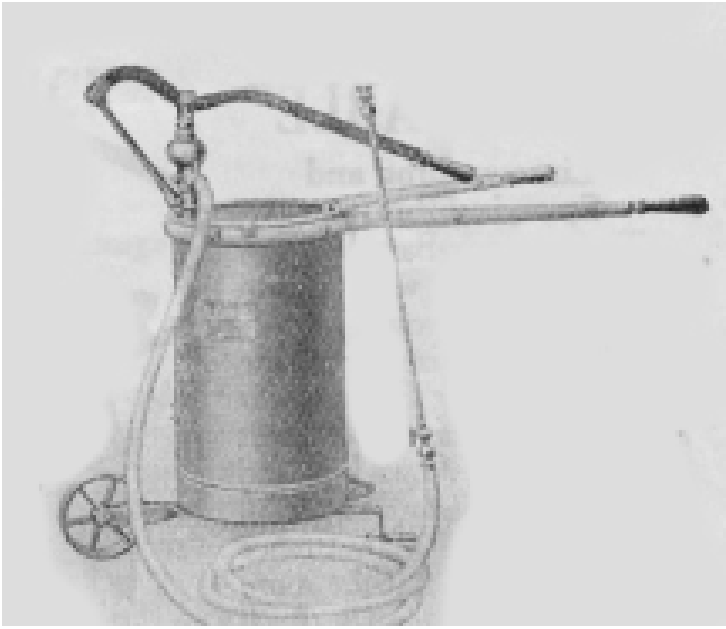
All use the standard double acting pump based on the common pump and have a bulbous air chamber above the hose outlet. In the 1954 and later catalogues all are available with a choice of iron wheels, a solid rubber tyre or a pneumatic tyre. Supplied with strainer, 10ft of hose and 2ft spraying arm.

The VICTOR No.1 features in a 1927 advertisement and remains available to at least 1968. Galvanised container with capacity 6 gallons.

The VICTOR No.2 features in a 1927 advertisement and remains available to at least 1968. Galvanised container with capacity 10 gallons.

The VICTOR JUNIOR features in a 1927 advertisement and mentioned in the 1954 Catalogue, but not in the 1968 Catalogue, but may have still been available. Advertised as a special light form for use by ladies.

Below :- The Victor 1.



Four Oaks Spraying Machine Co

ROYAL AND ROYAL JUNIOR

Earliest confirmed date for the ROYAL is 1911/1912 and latest confirmed date 1937. Oak container capacity 6 gallons with 10ft of hose. Double action based on the common pump. Supplied with strainer, 10ft of hose and spraying and limewashing nozzles.

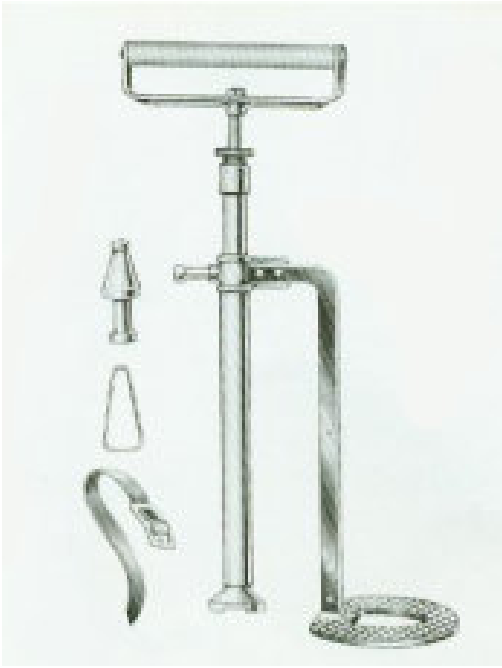
The ROYAL JUNIOR is a cheaper version with a 4 gallon bucket. Earliest confirmed date Catalogue 35A (circa 1930) and latest confirmed date 1937.

Wooden containers needed to be kept about half filled with water or would dry and leak.

Four Oaks Spraying Machine Co

STIRRUP PUMP

This is the basic stirrup pump. Earliest confirmed date 1954, but probably made for use in WW II. The latest confirmed date is 1968. Made to the British Government specification. Brass barrel diameter ⅞ of an inch with a rubber protective tube. Brass piston rod $^{9}/_{16}$ of an inch in diameter. Handle was a malleable iron frame fitted with a wooden handle. Malleable iron stirrup. In the 1954 Catalogue it is supplied without a hose but with a plastic nozzle, hose clip and web strap. Iron parts were painted black. Stirrup pumps were double action pumps. It appears to have a small air chamber in the barrel above the hose outlet.



Mackenzie Sprayer

Stirrup pump with air chamber. The stirrup could be folded so that it could be carried on a bicycle. Very similar to the one sold by W T French. Designed for the spraying of disinfectants. Mackenzie refers to Dr Leslie Mackenzie, medical officer to the Local Government Board for Scotland who advocated the use of disinfectant spraying in schools and hospitals.

Four Oaks Spraying Machine Co

COLONIAL, COLONIAL JUNIOR, YENTON

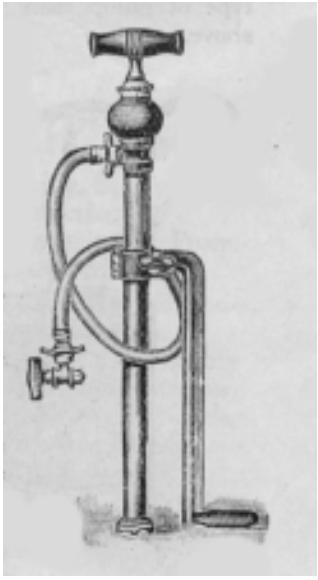
COLONIAL

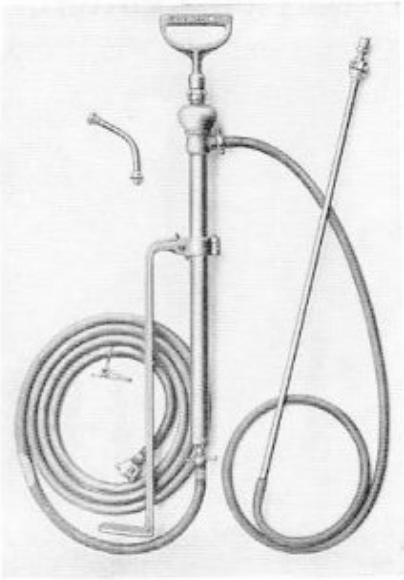
Earliest confirmed date 1927 and latest confirmed date 1968. It uses the same double action pump as used in the bucket pumps and has a bulbous air chamber. Stirrup made of malleable iron finished in red. Supplied with one nozzle. Lances were an optional extra.

The COLONIAL JUNIOR is described as “a lighter cheaper model”. It is not pictured in any of the catalogues. Possibly, it did not have the air chamber Earliest confirmed date Catalogue 35A (circa 1930) and latest confirmed date 1951.

The YENTON was similar to the COLONIAL. Earliest confirmed date Catalogue 35A (circa 1930) and latest confirmed date 1954. Instead of the foot of the barrel going into a container it was attached to 4ft of suction hose with a strainer on the end.

Below :- Left the COLONIAL and right the YENTON.

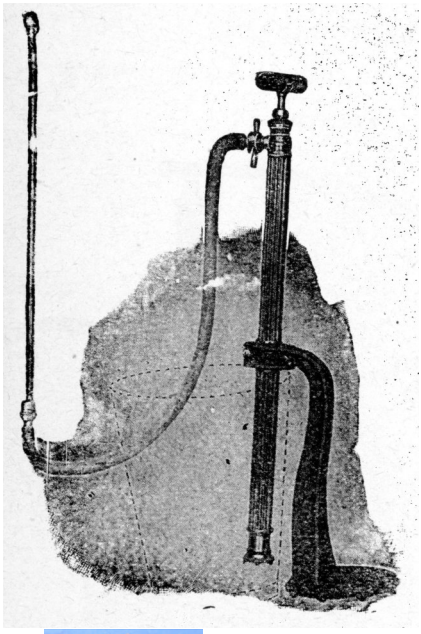




Four Oaks Spraying Machine Co

BELWELL

The BELWELL is mentioned in the price list for Catalogue 35A (circa 1930) and illustrated in the CGA Price Book 1937.

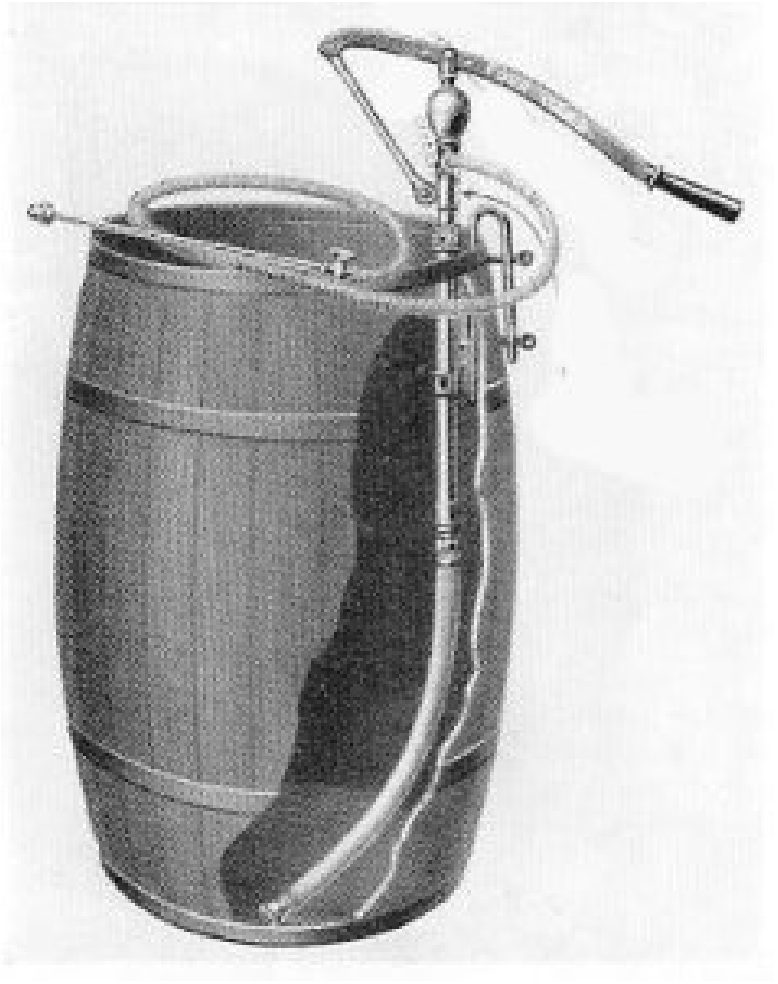


Above :- [982] {5} *Stirrup pump with an undentable type corrugated outer casing. It came with a hose, a lance, and an iron stirrup as illustrated. As an optional extra it could be provided with a right and left nozzle used for spraying two rows at the same time. Barrel length 18 inches. Corrugated outer casing over a 1 inch brass barrel. Ball controlled piston and foot valves. Strainer on foot valve. The piston rod is hollow and acts as an air chamber. The piston head may have been cotton packed.*

Four Oaks Spraying Machine Co

SOUTHERN CROSS

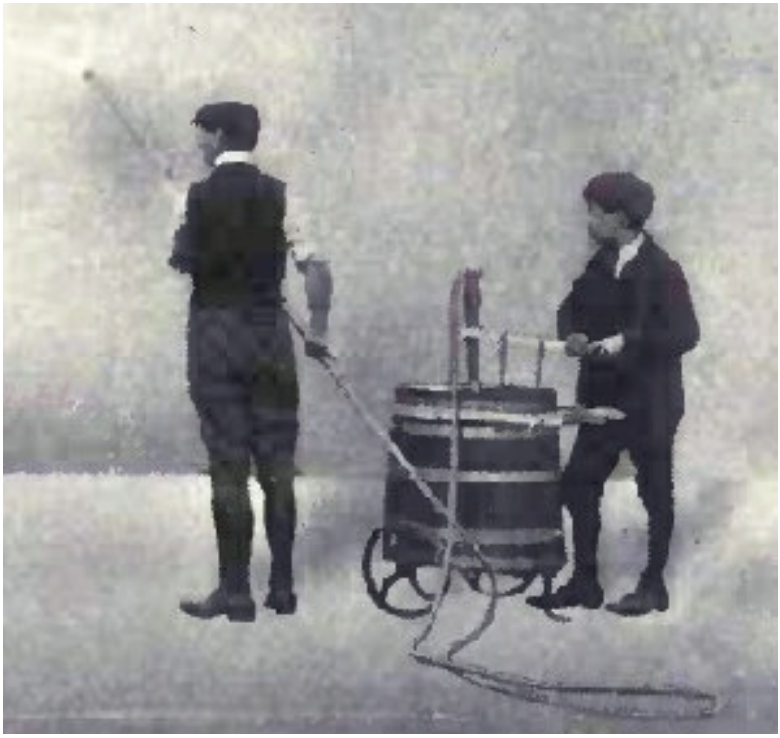
Earliest confirmed date 1927 in an advertisement and latest confirmed date 1954. Double action brass pump based on the common pump. Bulbous air chamber. Lever action pump. Designed for fitting onto the user's own container using a clamp. Supplied with suction hose, delivery hose 6ft in length, and spraying and limewashing nozzles. The sprayer had a swinging fulcrum which allowed the lever to be moved around the container.



Four Oaks Spraying Machine Co

1909 SPRAYER

Known only from a photograph this appears to be a force pump sprayer with an air chamber incorporated into an oak barrel mounted on iron wheels. The illustration suggests it might have had an agitator. Similar in appearance to the CONQUEROR.

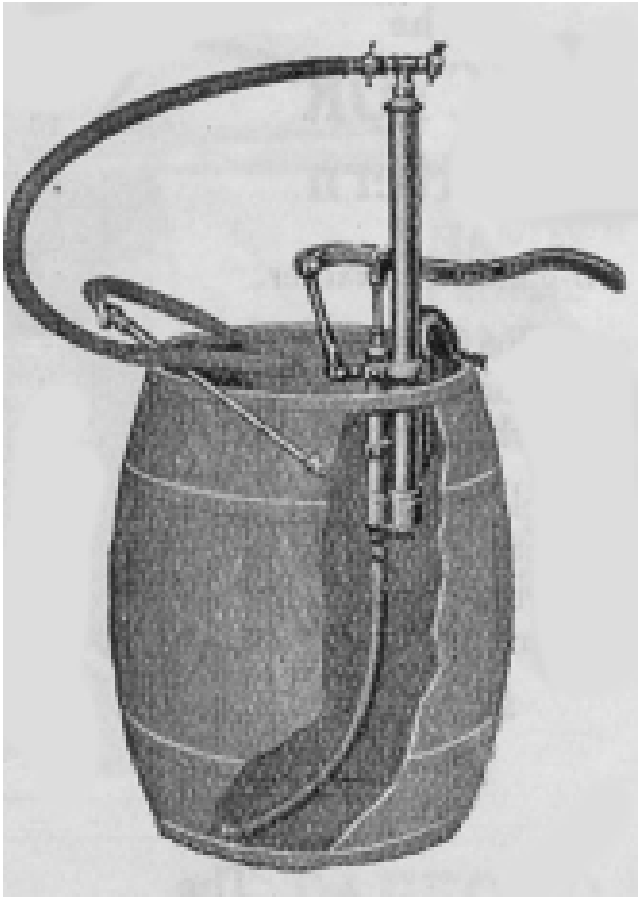


Four Oaks Spraying Machine Co

ATTACHABLE (No. 1 and No.2 and FARMFIELD)

Earliest confirmed date 1927 and latest confirmed date 1968. Continuous action brass pump based on the force pump with a vertical air chamber. Lever action. Designed for fitting onto user's own container using a clamp. Supplied with suction hose, delivery hose 6ft in length, and spraying and limewashing nozzles. The ATTACABLE No. 2 had a pump with twice the capacity.

Below :- Attachable No. 1



Four Oaks Spraying Machine Co

From the illustration in the 1937 advertisement the FARMFIELD looks like a special version of the ATTACHABLE. Advertised for use with the user's own container it appears to have two hose outputs as with the ATTACHABLE. Advertised in the Berwickshire News 1944 as being the latest type for spraying potatoes and grain.

SIX AWARDS OF MERIT (Highest Honors) 1935-6 SPRAYING TRIALS

OUR TRADE MARK

COPYRIGHT REGISTERED TRADE MARK THE FOUR OAKS

FOR 42 YEARS

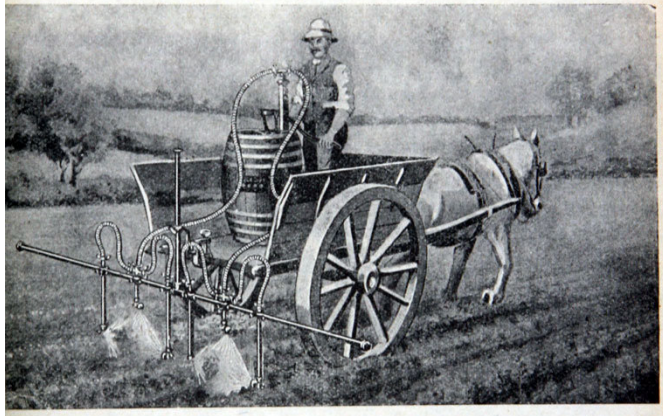
Four Oaks

POTATO AND CHARLOCK SPRAYERS (S)

FARMER'S COMPLETE SPRAYING OUTFIT.

Saves its Cost several times over, the first season.

"FARMFIELD" Pattern for moderate acreages.
"FARMF ELD" Pattern. This machine will Spray about double the acreage a Knapsack Sprayer can do.



SHOWING THE "FOUR OAKS" "FARMFIELD" PATTERN IN USE AS A POTATO SPRAYER. SPRAYING TWO ROWS AT ONCE.

For illustration showing this machine in use as a Charlock Sprayer, see following page.

The pump is suitable for Spraying FRUIT TREES, POTATOES, etc., or any kind of lime washing.

The pump is all brass and the valves brass ball valves.

Specially designed for those who require a *really good powerful pump* which can be fixed to any container they already have

This machine can be worked quite easily by hand, and full instructions as to working are sent with each sprayer. Any ordinary paraffin or other barrel can be used, and a strainer which prevents the obstruction of the nozzles is included

PRICE, complete with all Attachments and Nozzles and including Pump, but without Cask, £1 8s. 6d. *(contd.)*

Carriage paid to stations in Great Britain on orders of £20 value and upwards.

Four Oaks Spraying Machine Co

LITTLE GIANT

Earliest confirmed date 1927 and latest confirmed date 1959. In Catalogue 29, Catalogue 35A and the CGA Price Book 1937 it is shown with just iron wheels, thereafter, illustrated with pneumatic rubber tyres, but it was also available with iron wheels or solid rubber tyres. Continuous action brass pump based on the force pump with a vertical air chamber. Lever action. Capacity 12 gallons. Built in agitator. Supplied with 12ft delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

Four Oaks Spraying Machine Co

Below : - Little Giant with iron wheels.

Four Oaks Spraying Machine Co

HANDY

Earliest confirmed date 1927 and latest confirmed date 1954. Shown in Catalogue 35A and the CGA Price Book 1937 with iron wheels, thereafter, illustrated with pneumatic rubber tyres, but also available with iron wheels or solid rubber tyres. Continuous action brass pump based on the force pump with a vertical air chamber. Lever action. Capacity 10 gallons. Built in agitator. Supplied with 10ft delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle. The pump and fittings could instantly be detached from the fittings.

Four Oaks Spraying Machine Co

STAFFORD

Earliest confirmed date 1927 and latest confirmed date 1968. Originally with iron wheels, but in 1954 and 1968 available with iron wheels or pneumatic tyres. Continuous action brass pump based on the force pump with a vertical air chamber. Lever action. Capacity 18 gallons. Built in agitator. Supplied with 12ft of ½ inch delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

Four Oaks Spraying Machine Co

Four Oaks Spraying Machine Co

STAFFORD JUNIOR

Earliest confirmed date 1930 and latest confirmed date 1968. In Catalogue 35A and the CGA Price Book 1937 it is described as having a fluted container. In 1954 it is illustrated with pneumatic tyres but without a fluted container. In 1954 and 1968 available with iron wheels or pneumatic tyres. Continuous action brass pump based on the force pump with a vertical air chamber. Lever action. Capacity 12 gallons. Built in agitator. Supplied with12ft of ½ inch delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

Four Oaks Spraying Machine Co

BRIDGWATER and BRIDGWATER DE LUX

The earliest confirmed date for the Bridgewater is 1917 and latest confirmed date 1968. In all illustrations it is shown with iron wheels, but in the 1954 and 1968 Catalogue it is available with either iron wheels or pneumatic tyres. It has a continuous action brass pump based on the force pump with a vertical air chamber. Lever action. Capacity 18 gallons. Built in agitator. Dual output. Supplied with 10ft of ½ inch delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

The BRIDGWATER DE LUXE is featured in catalogue 70 and 35A and the CGA Price List 1937 but never illustrated. It is advertised as having a 30 gallon container and a more powerful pump. The 1951 price list has a BRIDGWATER and BRIDGWATER 3. I suspect the BRIDGWATER No.3 is a larger capacity version of the BRIDGWATER, but with the same size pump. In the 1954 and 1968 Catalogues the BRIDGWATER becomes the BRIDGWATER No.1, the BRIDGWATER DE LUXE is dropped and replaced by the BRIDGWATER No. 2 which I suspect had a different size container, but the same pump. Both use spare parts box ‘D’ which appears to be the version for use with the smaller pump. In the CGA Catalogue 1937 the Bridgwater is said to have been supplied to the War Office and Admiralty. It is said to have made an efficient fire extinguisher.

Four Oaks Spraying Machine Co

Four Oaks Spraying Machine Co

Above :- *[780] {3} The BRIDGWATER. Note that there are differences between the two machines featured above and the catalogue illustration. However, they are thought to be the BRIDGWATER. The number of spokes on the wheels differs between the two illustrations above. The catalogue illustrations all show 6 spokes. The tap on the sprayer in the top picture is not featured in the catalogues and isn't fitted to the sprayer in the lower picture.*

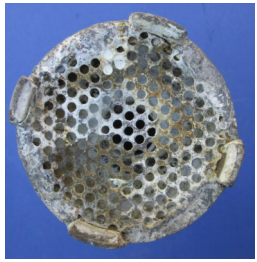
Above :- The lower part of the BRIDGWATER mechanism showing the pump, lower part of the pressure cylinder, the strainer and the agitator. PC - Pressure Chamber, PD - Paddle, IV - Inlet valve, OV - Outlet valve, B - Barrel. Mostly made of brass, but the agitator paddles are made of wood. The foot contains a strainer. The whole mechanism is mounted in a plywood board which attaches to the container and is secured using three wing nuts. In this way the whole pump mechanism can be removed from the container. for maintenance. The plunger can be removed from the top by disconnecting the agitator and pump arms. These are held in place with brass split pins. Leather gaskets are used to keep the joints watertight. This sprayer appears to have been used for limewashing.

Four Oaks Spraying Machine Co

Left :- *The BRIDGWATER piston. This consists of a single cup washer backed by a tight fitting brass cylinder. The internal Diameter of the barrel is 2¼ inches and height approximately 8 inches.*

Right :- The end of the piston showing the large nut which secure the cup washer. There is a metal interior washer,

Left :- The top of the barrel with the piston removed. Note the hole in the barrel which allowed any liquid which found its way passed the piston to flow back into the container.



Left :- The strainer.

Right :- The inlet valve. It uses a brass ball (1 inch diameter approx.)

Left :- The outlet valve. Controlled by a brass ball. The picture also shows the leather gasket. The outlet valve is connected to the pressure chamber and secured by 6 brass bolts.

Right :- Interior view of the pressure chamber. The tube in the centre is the outlet tube. This exits at the top of the pressure chamber and ends with the hose connector. The air chamber is air tight and should only get partially filled with liquid.

Four Oaks Spraying Machine Co

ROCHESTER

Earliest confirmed date 1930 and latest confirmed date 1968. In the 1968 Catalogue it is included in the price list but not illustrated. It has a continuous action brass pump based on the force pump with a vertical air chamber. Lever action. Advertised as being suitable for placing in trucks. Galvanised container with a capacity of 10 gallons. The whole pump assembly can be removed easily. Built in agitator. Supplied with 12ft of delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

Four Oaks Spraying Machine Co

CONQUEROR and SOMERSET

The CONQUEROR is illustrated in Catalogues 70 and 35A. Also, in the CGA Price Book 1937 but does not appear elsewhere. It has a continuous action brass pump based on the force pump with a vertical air chamber. Lever action. Oak container capacity 10 gallons. Built in agitator. Supplied with 12ft of delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

The SOMERSET is the same as the CONQUEROR, but without the wheels and carriage. It has handles for carrying. It is mentioned but not illustrated in the W H Willcox 1917 catalogue, also in catalogue 70 (circa 1927).

Four Oaks Spraying Machine Co

CHALLENGER

Earliest confirmed date 1927 and latest confirmed date 1951. It has a continuous action brass pump based on the force pump with a vertical air chamber. Dual output. Pump can easily be removed from the container. Lever action. Advertised as being suitable for use between rows. Galvanised container with a capacity of 12 gallons. Built in agitator. Supplied with15ft of delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

Four Oaks Spraying Machine Co

SHENSTONE

Earliest confirmed date 1930 and latest confirmed date 1937. It has a continuous action brass pump based on the force pump with a vertical air chamber. Pump can easily be removed from the container. Lever action. Advertised as a fruit tree sprayer. Wooden container with a capacity of 18 gallons. Built in agitator. supplied with 12ft of delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

Four Oaks Spraying Machine Co

ELY

Earliest confirmed date 1927 and latest confirmed date 1951. Available with an iron wheel in catalogue 35A and 70. Also in the CGA Price Book 1937, and with an iron wheel or pneumatic tyre in 1951. It has a continuous action brass pump based on the force pump with a vertical air chamber and dual output. Lever action. Advertised for use in narrow rows. Galvanised container with a capacity of 18 gallons. Built in agitator. A pressure gauge was available as an optional extra. Supplied with 15ft of delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

Four Oaks Spraying Machine Co

Below :- ELY Mark 2.

Four Oaks Spraying Machine Co

BATTLE

Earliest confirmed date 1927 and latest confirmed date 1951. Available in an 18 gallon and 25 gallon version. In the 1951 price list the 18 gallon version is shown as available with either a brass, galvanised or oak container. The 25 gallon version is available with a brass or galvanised container. It has a continuous action brass pump based on the force pump with a vertical air chamber and dual output. Lever action. Built in agitator. 24 inch wrought iron wheels. Supplied with 15ft of delivery hose, strainer, lance with stop cock, spraying nozzle and limewash nozzle.

Four Oaks Spraying Machine Co

Knapsack Sprayers

The Four Oaks Spraying Machine Co had an extensive range of knapsack sprayers. The earliest mention I can find for a knapsack sprayer is an advertisement dated 10 April 1909 in the Cheltenham Chronicle. The illustration is of a knapsack sprayer with an external pump and an external air chamber. Advertised as weighing 14 lbs and with a capacity of 3¼ gallons and cost of 45 shillings. This would be somewhere around £300.00 in 2021. There is no model number in the advertisement and no mention of other models. The illustration in the 1909 advertisement is different from that of model 101 in Catalogue 29 but the descriptions are basically the same. This catalogue also illustrates model 106 which uses a rubber diaphragm and mentions other versions of the sprayer designed for use with liver of sulphur and lime sulphur. Catalogue 35A uses the same illustration for models 101, but model 106 is no longer featured. It does, however, mention model 102 which was basically the same as model 106 but tinned for use with liver of sulphur and lime sulphur. A tinned copper version - Model- is advertised in 1937. Models 400 and 401 first appear in Catalogue 35.

The 1954 Catalogue retains the model 101 and 102 and adds model 103 which internally was protected with a lead coating so that it could be used with sulphuric acid. Model 501 appears to replace models 400 and 401 and can be used with liver of sulphur. and lime sulphur. Model 90 which looks like it has a diaphragm pump appears as the bottom of the range option. A special model 'The Ross' is introduced specifically for anti malarial work. Between 1954 and 1959 there was a new and very different version of Model 101. In the 1968 Catalogue models 101(New Version),102,103, 501 and the Ross are featured.

Knapsack sprayers can be divided into three basic types. Those using an external force pump, those using a diaphragm pump and those with an internal force pump.

External Force Pump Knapsack Sprayers

In these sprayers the pump is on the outside of the container. The pump takes liquid from the container and passes into an output cylinder containing an air chamber.

Four Oaks Spraying Machine Co

Above :- External Model 101. With external pump (right) and air chamber (left). Copper container of 3¼ gallon capacity. In Catalogue 29 there is a version of the 101 with a tinned interior. This becomes the 102 in subsequent catalogues. Model No. 103 appears in the 1951 price list and the 1954 Catalogue. It is lead lined for use with sulphuric acid. Copper container will iron bottom section.

Above :- [634] {2} Exact model unknown, but probably a No. 101 or similar. Note the sprayer lance is lever controlled which makes it a later version.

Four Oaks Spraying Machine Co

Detail from above sprayer.

Right :- The piston. Back-to-back leather cup washers.

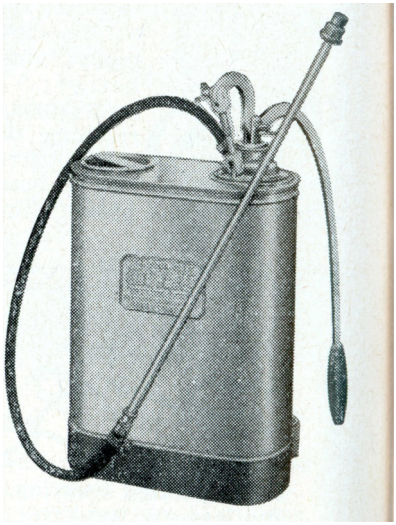
Below :- Strainer

Right :- Interior, showing the outlet to pump in the bottom of the container. Note the tube on the right. This connects to the top of the pump barrel. This has two functions. Firstly, to allow air in and out of the barrel above the piston and secondly to pump back into the container any liquid which has found its way past the piston.

Right :- The two valves positioned underneath the container with the caps removed. The left valve opens on the upstroke allowing liquid from the container into the pump barrel. The right valve opens on the down stroke allowing liquid to be forced into the air chamber and out through the nozzle.

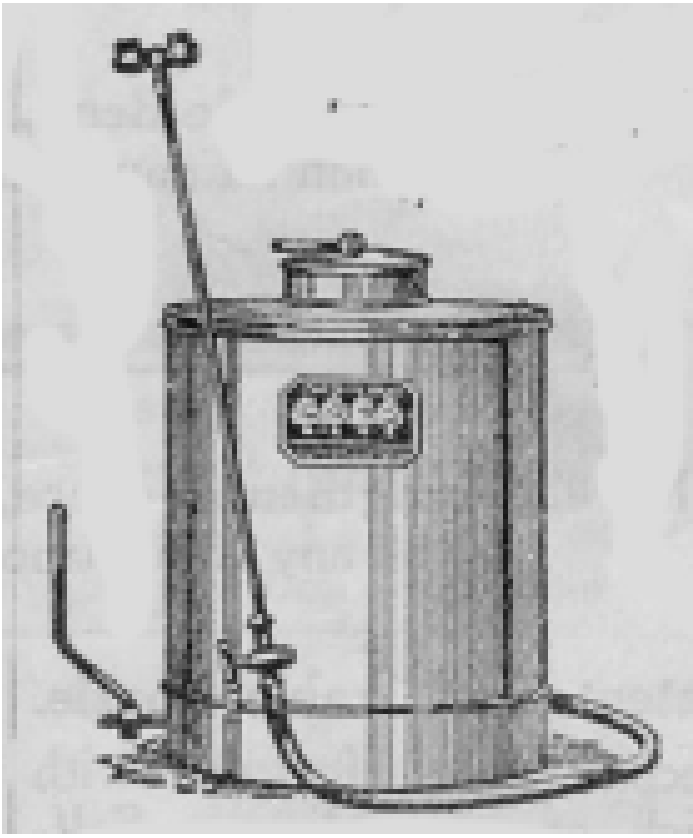
Four Oaks Spraying Machine Co

Below :-New model No. 101. In 1959 the sprayer illustrated below is advertised as model 101. It has a copper container. Also advertised was model 192 with a tinned brass container.



Four Oaks Spraying Machine Co

Below :- Internal. Model 106. With a diaphragm. In Catalogue 29 and the CGA Price Book 1937. It was also available as a tinned version for lime sulphur or liver sulphur for an extra 7s 6d extra. In 1937 this becomes model 107.



Four Oaks Spraying Machine Co

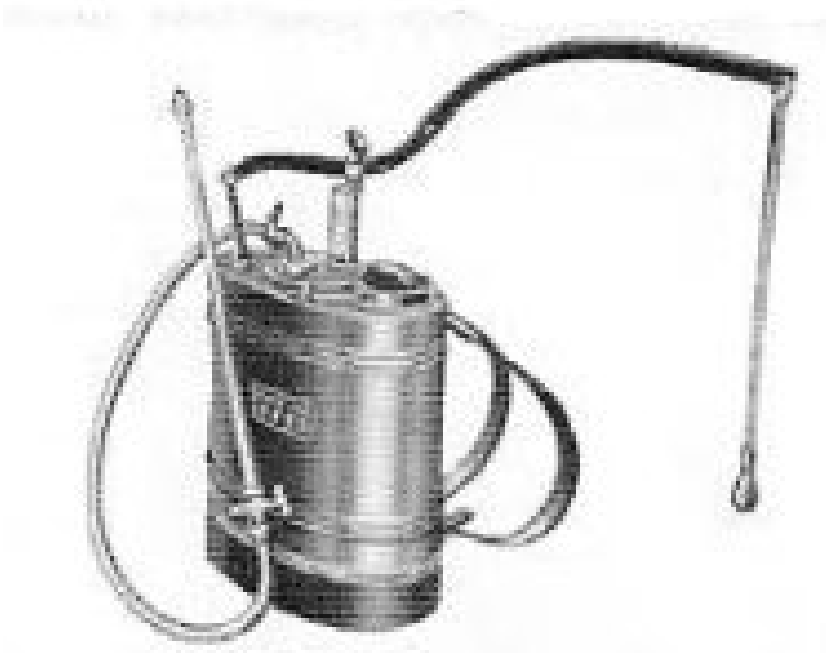
Below :- Internal. Model 90. A copper container with a diaphragm pump. Featured in the 1954 Catalogue. Side lever operated.

Four Oaks Spraying Machine Co

Below :- Model 90C and 90N, In the 1968 Catalogue the 90C is illustrated and the 90N mentioned. The 90C is the copper version and 90N a galvanised version finished in red and copper colours. The appearance of this and the description suggest it is a double action bucket pump working in the same way as the pump in the bucket pumps. Capacity 3¼ gallons. Trigger release lance. Four Oaks 'Marvellous' Nozzle which gives a wide cloud of spray.

Four Oaks Spraying Machine Co

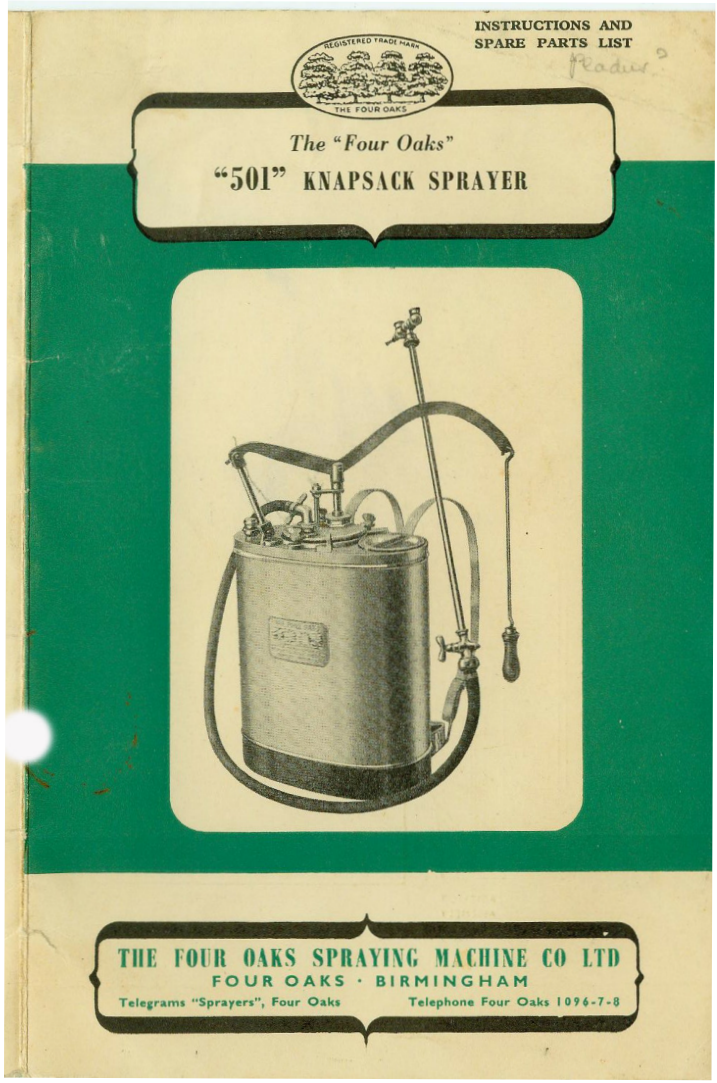
Below :- Internal pump. Model 400/401. Model 400 came with two copper containers one of which was tinned the other not. The whole force pump mechanism could easily be moved from one container to the other. It had a built in agitator. A feature of this sprayer is that by removing the bent iron handle the sprayer could be put on the ground and used as a bucket sprayer. To facilitate this there is a little foot rest under the machine. Model 401 was for the sprayer with just the copper container only. Model 400 (both containers) was available in Catalogue 35. Uses include the application of limewash. Capacity 3½ gallons.



Four Oaks Spraying Machine Co

Below :- Internal Pump Model 501. Internal force pump with an air chamber. Copper container which is tinned inside. Capacity 3¼ gallons and weight 15lb (with agitator). Output hose 40 inches with lance and double swivel nozzle. Brass tap. Webbing straps. This is an implementation of patent GB676461A applied for on 12 January 1950 and finalised 30 July 1952. It first appears in the 1950 Catalogue and then in the 1954 and 1968 Catalogues. Pictured below with the optional agitator. Easily removable brass pump.

Four Oaks Spraying Machine Co



Four Oaks Spraying Machine Co

The "Four Oaks"

"501" KNAPSACK SPRAYER

INSTRUCTIONS

The illustration on the front of this folder, clearly indicates how the handle, hose, spraying arm etc. are connected.

The shoulder straps are adjustable to give the greatest possible comfort to the operator.

It is important to see that all joints are fitted with leather washers, otherwise leaks occur. Check that all joints are tight.

TO FILL. First make sure that the liquid to be used is free from particles liable to clog pump valves or nozzles, and that the container is clean. The container holds approximately 3½ gallons of liquid, and to fill, it is only necessary to remove the lid of the container and pour the liquid through the gauze strainer.

THE PUMP PLUNGER. Before and after use, the Pump Cap, (Part No. 21), should be unscrewed, and a few drops of oil applied to the inside of the pump barrel. Care should be taken to see that the leather cup-washers (Parts No. 24) are always well oiled and not allowed to get hard.

Loss of pressure will be due to hard or worn cup-leathers, or choked valves.

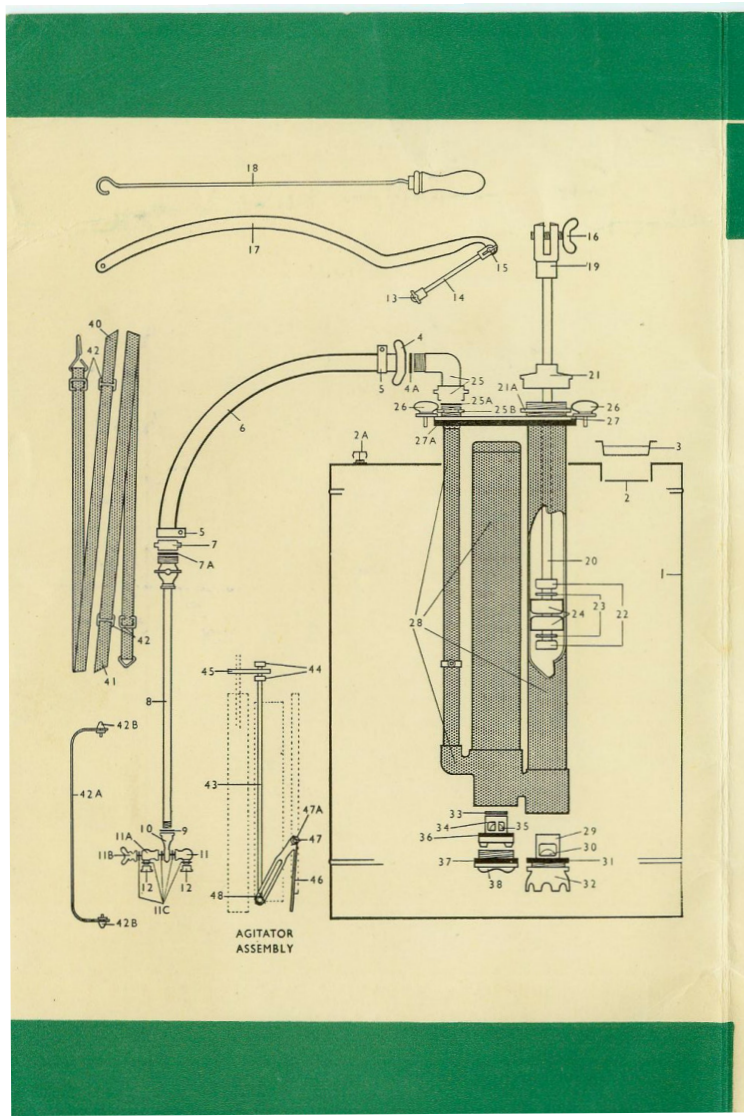
The complete pump assembly can be removed from the container by unscrewing the wing screws (Parts No. 26).

By altering the position of the lower end of the rocker arm (to the left or right), the pump handle can be brought over the left or right shoulder.

Always wash out carefully after use, and pump cleaning liquid through machine.

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 1096-7-8

Four Oaks Spraying Machine Co



Four Oaks Spraying Machine Co

"501" KNAPSACK SPRAYER

SPARE PARTS LIST

(When ordering, please quote part number and name of machine)

501/ 1	Container
501/ 2	Strainer
501/ 2A	Emptying plug
501/ 3	Lid
501/ 4	Cap and lining
501/ 4A	Washer
501/ 5	Hose clip
501/ 6	Hose, ⅜" plain 4ft.
501/ 7	Cap and lining
501/ 7A	Washer
501/ 8	Brass rod and tap
501/ 9	Washer
501/10	Nozzle centre piece bulb
501/11	Nozzle swivel with spindle
501/11A	Nozzle swivel bulb
501/11B	Wing nut
501/11C	Set washers for double swivel Nozzle
501/12	Nozzle caps, Fine, Medium, Coarse and Blank caps
501/13	Wing screws
501/14	Rocker arm
501/15	Wing screw
501/16	Wing screw
501/17	Pump lever
501/18	Pump handle
501/19	Plunger head
501/20	Plunger rod
501/21	Pump cap
501/21A	Brass nut
501/22	Steel nuts
501/23	Brass washers

Complete Nozzle

Fan Nozzles. fine, med. Coarse.

501/24	Cup leathers
501/25	Outlet bend complete
501/25A	Washer
501/25B	Brass nut
501/26	Wing screws
501/27	Pump plate
501/27A	Leather sealing washer
501/28	Bottom casting complete with plunger tube, air chamber and outlet tube
501/29	Pump ball cage
501/30	Pump ball
501/31	Sealing washer
501/32	Suction cap
501/33	Ball retainer
501/34	Air chamber ball cage
501/35	Air chamber ball
501/36	Valve sealing washer
501/37	Cap sealing washer
501/38	Air chamber cap
501/40	Webbing strap with hook
501/41	Webbing strap without hook
501/42	Brass slides
501/42A	Webbing back rest
501/42B	Brass clamps with nut and bolt
501/43	Actuating rod
501/44	Steel nuts
501/45	Steel connecting link
501/46	Brass agitator
501/47	Agitator stud
501/47A	Washers and split pins

Assembly

(When ordering, please quote part number and name of machine)

Four Oaks Spraying Machine Co

Below :- Internal pump. The ROSS. Internal force pump. Galvanised container. Specially designed for anti-malarial work. Named after Sir Ronald Ross (13 May 1857 – 16 September 1932). He was a British medical doctor who received the Nobel Prize for Physiology or Medicine in 1902 for his work on the transmission of malaria. Available in the 1950, 1954 Catalogue and 1968 Catalogue. Also available was the ROSS DE LUXE with a brass container and enamelled iron bottom rim. All were available with an optional agitator.

Four Oaks Spraying Machine Co

Pneumatic Backpack Sprayers

Known by four oaks as Pneumatic Knapsack Sprayers, but commonly known as backpack sprayers. The KENT sprayer is the most commonly found. Illustrated in use in Catalogue 29. Only the 4 gallon size is mentioned, but other sizes may have been available. In the 1939 Catalogue three sizes are mentioned. The No 2. with a working capacity of 3 gallons; the No. 4 with a working capacity of 2 gallons and the No. 6 with a working capacity of 1 gallon. The container is stated as being made of ‘Forex’ brass alloy which is said to be resistant to liver of sulphur and lime-sulphur. Liver of sulphur is sulphurated potash mostly consists of potassium polysulfides and was once used as a fungicide. Lime sulphur is mainly a mixture of calcium polysulfides and thiosulfate. It was used as fungicide, insecticide and miticide. The sprayer was fitted with a pressure gauge, swivel nozzle and back rest. Taps at the outlet and on the lance. Supplied with a ‘Tundish’ (funnel) and a strainer. In 1939 the straps are leather, but are referred to as webbing in 1954 and 1968. The1968 lance is shown with a lever controlled tap. The 1954 Catalogue lists a trolley for use with the KENT No. 2.

A military model was also made. The main differences are that in the military version there are no visible rivets and a recessed pressure gauge. The filler cap is also larger to enable it to be handled in protective clothing. There is extra back support and more substantial webbing. They have a government identification plate. A special range of accessories were available. Supplied to the military until at least the late 1960s.

The other pneumatic backpack sprayer is the WEEFORD. Based on patent GB191576A dated 18 January 1923. It was probably available shortly before this, but is not mentioned in the 1932 Catalogue. Looking much like a large KENT model, it differs in that it has no filler cap. It is charged with liquid using the pump and can be refilled during the day without the loss of air pressure. It includes a fairly complicated mechanism which incorporates both ball valves and a cork ball float. The container is made of ‘Forex’ brass alloy and has a working capacity of 3 gallons. It weighs 28lbs. Hose, lance and nozzles as for the KENT, but in it included a length of suction hose for filling. It was listed in the 1950 and 1954 Catalogues, but not in the 1951 price list or 1968 Catalogue.

Four Oaks Spraying Machine Co

Below :- [260] {2} KENT with 2 gallon working capacity. Internal air pump barrel length 18 inches with a diameter of 1¼ inches. Solid brass piston rod. The piston has a forward facing single leather cup washer. Height of container 20 inches and diameter of 7 inches. Rubber hose with reinforcement. Leather harness.

Four Oaks Spraying Machine Co

Above :- KENT. Top of cylinder with pressure gauge, handle, and filler.

Right :- The valve from the pump.

Four Oaks Spraying Machine Co

Left :- The tap on the outlet and part of back support. Showing hose connection and armoured hose.

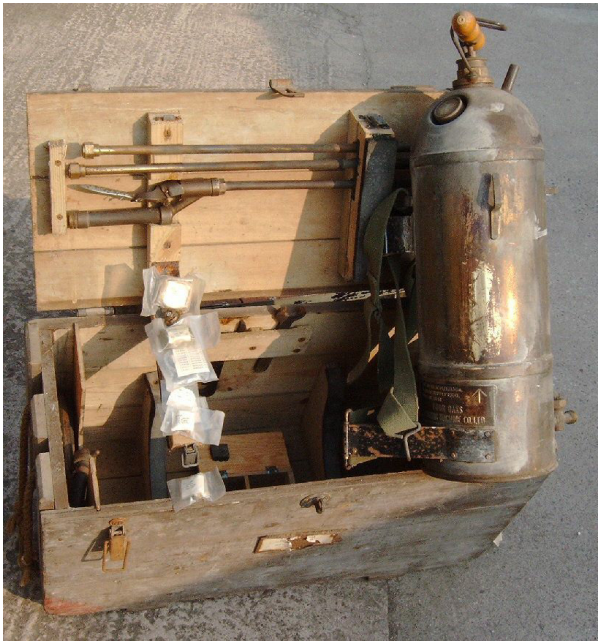
Below :- Nozzles with cap removed.

Left :- Tap on the lance.

Below :- Part of leather harness.

Four Oaks Spraying Machine Co

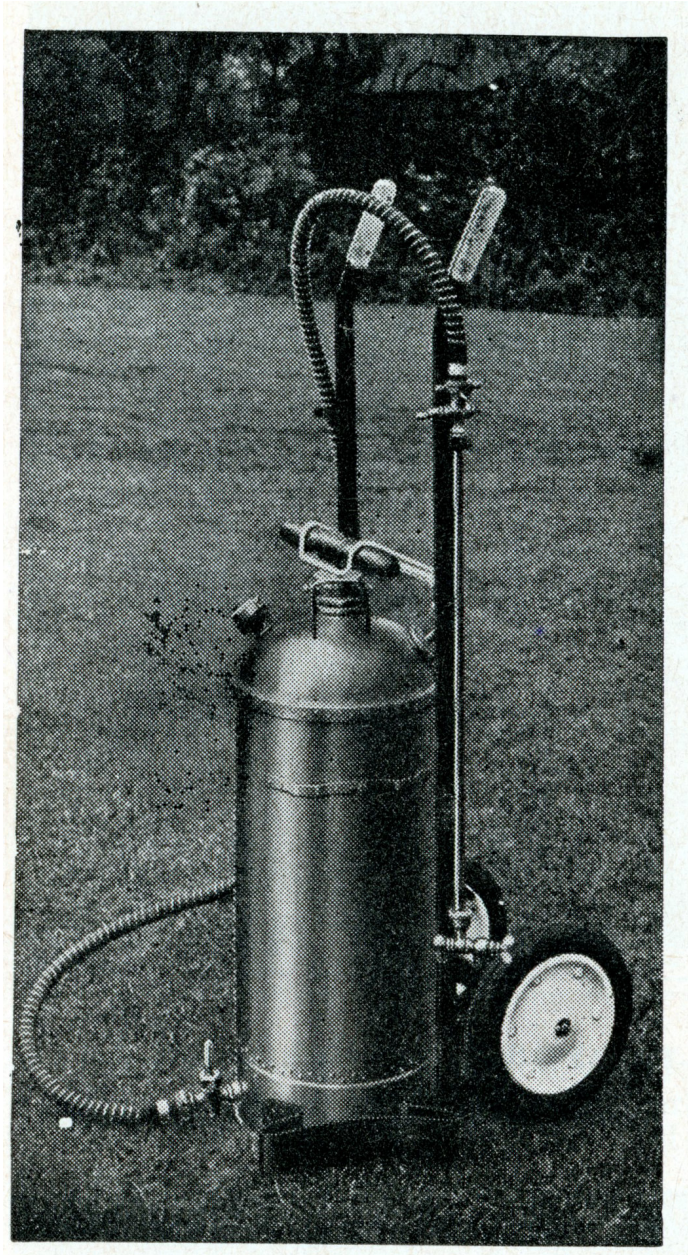
Below :- KENT. Military version in box.



Below :- 3 gallon versions. Two different periods may be represented. Note the difference in taps and the shape of the pressure gauge.

Four Oaks Spraying Machine Co

Below :- KENT No. 2. With Mobilizer Truck. Earliest documented date 1954. This picture dated 1959.



Four Oaks Spraying Machine Co

Below :- [657] {3} WEEFORD. Recognised by having no filler and two hose connection in the base. It is filled using the suction hose (bottom). First it is pumped up to a recommended pressure with the suction hose out of the liquid. Then the suction hose is put in the liquid and the pump used to charge the sprayer. Working capacity 3 gallons. In Catalogue 35 and the CGA Price Book 1937

Four Oaks Spraying Machine Co

Right :- WEEFORD outlet pipes and valve casing.

Below :- Valves with cover removed.

Below :- The float chamber. The cork ball blocks the outlet when the liquid level falls too low. preventing loss of air.

Below :- Valve cover,

Four Oaks Spraying Machine Co

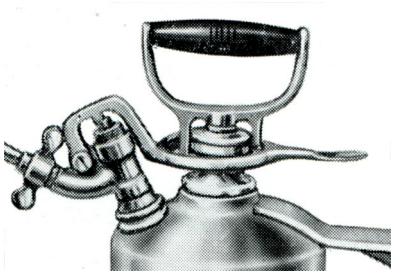
Small Pneumatic Sprayers

The STREETLEY AND STREETLEY DE LUXE are small pneumatic sprayers with a working capacity of 3 pints. The container is made of brass alloy. Filled from the top. The sprayers produced a very fine spray for use in applying disinfectants in houses, kennels hospitals etc. Also, for spraying a fine mist in greenhouses. It was featured in the 1968 Catalogue. In Catalogue 35A there was a smaller version known as the STREETLEY DE LUXE No. 2. This has a capacity of 1¼ pints. It is mentioned in 1937 and in the 1951 price list, but not after this. However, it was probably still available.

Below :- The STREETLEY DE LUXE (left) and STREETLEY (right). The DE LUXE has lever controlled on off.

Below :- STREETLEY

Right ;- The lever controlled on/off on the STREETLEY DE LUX.



Four Oaks Spraying Machine Co

Central Charge Pump (Pump No. 1- De Luxe,2 and 3)

These are an implementation of Patent GB184907A 30 dated August 1922.

The Battery Knapsack cylinders used for this have an inlet valve and a ball control float valve based on an adaptation of the design used in the WEEFORD but without a pump. They had a working capacity of 3 gallons. There were versions with their own pressure gauge and some without. Battery Knapsack No. 1 did not have a gauge and was for use with Charge Pump No. 1 which had a built in gauge. Battery Knapsack No. 2 was for use with charge pump Nos 2 and 3. The ball float valve would close when the liquid level fell too low. This prevented the loss of air so that the knapsacks could be charged with just liquid. They came with a harness,

The Charge Pump De Luxe (No. 1) is the one illustrated on the following page. It has double table for tanks and could charge two Battery Knapsacks at one time. The tub as illustrated was not provided. The unit was made of iron and brass pumps and was not designed to be moved on a regular basis. The Battery Knapsacks are charged by an external double action pump. The operator had a lever which controlled whether air or liquid was being pumped. The charging unit is initially used to pump air into the containers to a predetermined pressure (about 30 lbs). The pump is then used to pump liquid into the Battery Knapsacks which increases the air pressure sufficient to empty the contents. The containers do not incorporate a pump so they are lighter and one man can be employed to keep the containers charged for several men doing the spraying.

Central charge pumps Nos. 2 and 3 did not have their own pressure gauge. They are advertised as being lighter and cheaper. The charge pump was mounted on an iron stand so that it could be moved from tub to tub by two men.

It is featured in a one page advertisement in FRUIT FARMING by Cecil H Hooper (1922). A use identified in the 1950 Catalogue is for spraying fungicide in Indian Tea Plantations. The system is listed in the 1954 Catalogue but not illustrated. It does not appear in the 1968 price list.

Four Oaks Spraying Machine Co

From FRUIT FARMING Practical and Scientific by Cecil H Hooper (1922).

The "FOUR OAKS" Pneumatic Battery Knapsack Sprayers

REGISTERED TRADE MARK
THE FOUR OAKS

WITH CENTRAL CHARGE PUMP.

Illustration showing the "FOUR OAKS" Central Charge Pump, No. 1, "De Luxe" pattern, charging a "BATTERY" Knapsack Sprayer.

THE ABOVE IS THE VERY LAST WORD IN SPRAYING APPLIANCES.

Six to twelve men can easily be kept constantly spraying without any pumping action on their part.

For full particulars of above and all other types of Sprayers apply for Catalogues, post free, to the Sole Manufacturers—

THE FOUR OAKS SPRAYING MACHINE CO., Spraying Specialists,
FOUR OAKS WORKS, SUTTON COLDFIELD, BIRMINGHAM.
Telegrams:—"Sprayers, Four Oaks." Telephone:—Four Oaks 5.

Four Oaks Spraying Machine Co

THE VESEY

The VESEY is a double barrel pump mounted on a trolley. Input is via a suction hose with a filter on the end. This could be placed in any water source, including pond, stream or river. Designed for operation by two people. It was illustrated in Catalogue 35A at a basic price of £28.15.0 with other packages available at extra cost. In the CGA Price Book it is 1937 it is illustrated and offered in four outfits with varying lengths of hose and slightly different accessories. It is mentioned in the 1951 price list. Two force pumps mounted side by side suck in the liquid and force it into a cylinder which incorporates an air chamber.

TRENCH PUMP

During WW I the company produced a trench pump for military use. One is known dated 1916 with the broad arrow military mark. This is very similar to the trench pump produced by W T French (pictured right). Further details can be found in the chapter on W T French.

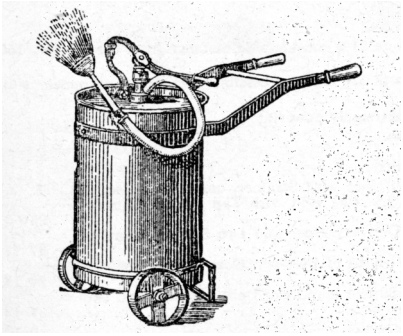
Four Oaks Spraying Machine Co

GARDEN ENGINES

The CGA Price Book 1937 list two “HIgh Class” garden engines.

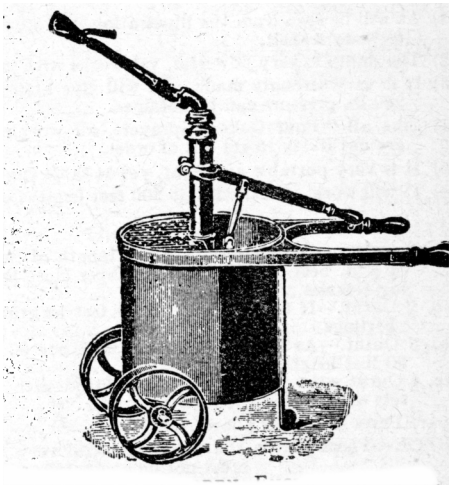
Garden Engine 259

This appears to be based on the common pump with an air chamber. Capacity 10 gallons. Lever operated. Provided with a jet and a spreader nozzle.



Garden Engine 186

This appears to be based on the force pump with an air chamber. Capacity 18 gallons. Provided with a jet and a spreader nozzle. It is advertised as having a “Very Powerful Pump”.



Four Oaks Spraying Machine Co

Four Oaks Syringes

The patent for the UNDENTABLE syringe GB190204825A was applied for on 25 February 1902 and granted 19 January 1903. It is assumed that the UNDENTABLE was in production early in 1902. The UNDENTABLE syringes have a corrugated brass outer casing around the barrel which protects the barrel from denting. A consequence of this is that there is no place for holders for extra nozzles. The outer casing also prevents the air vent being in the barrel so in UNDENTABLE syringes it is in the barrel end cap. Although many of the UNDENTABLE syringes were sold with additional nozzles they are rarely found with the sprayers.

It is assumed that for the years prior to the introduction of the UNDENTABLE the company were producing standard syringes.

There are a number of newspaper advertisements for 1910 (eg. Western Times 6 February 1910) that mention ‘The Four Oaks, Undentable Syringe Spraying Company’. These feature the new knapsack sprayer, but the UNDENTABLE must have been a key product at this time.

The first advertisements I am aware of which feature the syringe range appear in the ‘Country Gentlemen’s Association General Price book for 1929’. The same advertisement appears in the 1937 and 1938. It is probable that these advertisements feature only the better quality syringes and that cheaper models were available. The 1954 Catalogue features a range of syringes which includes the UNDENTABLE, several models of plain syringes and some with the Purser type drip protector. A range similar to this had probably been in place for some time. A variety of different nozzles were supplied including fixed rose, rose and jet, spray nozzles with separate fast-fill valves and spray models with integrated fasts fill valves. More sizes and nozzle combinations were produced than those mentioned in the catalogues.

The catalogues do not mention the piston type. Sprayers with cup washer type pistons will probably be post WW II. Those with cotton reel (cotton padded) pistons may be pre or post WW II, but will be earlier than those on the same model using back-to-back cup washers.

Four Oaks Spraying Machine Co

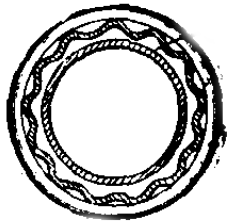
UNDENTABLE

From the catalogues and advertisements there appear to be six sizes of UNDENTABLE. They were in production from 1903 to the early 1970s. Advertised sizes (outside diameter and nominal lengths in inches) were 20 x 1⅛, 16 x 1¼, 18 x 1½, 20 x 1½, 18 x 1¾ and 20 x 1¾. However, there are examples of models which do not appear in any advertisements I am aware of. Probably, special versions were made to order or for specialist functions. Some models were available with teak or rose wood handles.

Nozzles available were spray, jet, fine rose and coarse rose. The jet nozzle appears to have been one with the fast-fill valve pointing forward or a simple jet nozzle without a fast-fill valve. Rose nozzles have a centre fast-fill valve.

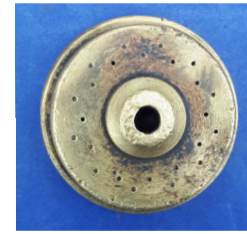
Left :- Jet nozzle, with fast-fill valve (right) controlled by a ball.

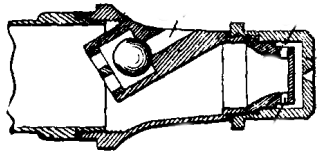
Right :- Standard jet nozzle with no valve.



Left :- Cross section of barrel,

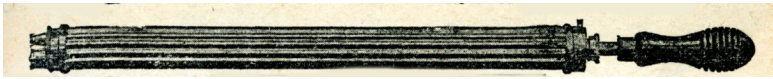
Right:- Rose with centre fast-fill valve.





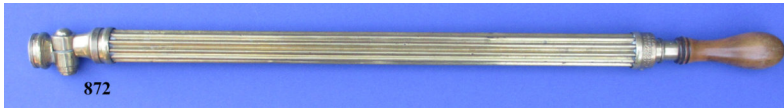
Above :- The spray head . Spray cap left, spray disc centre and head right. The spray disc has two small holes on its sides. Liquid is forced through these to create droplets which are swirled around in the atomising chamber formed between the disc and the cap to create a fine spray. Removing the disc turns the nozzle into a jet.

Four Oaks Spraying Machine Co

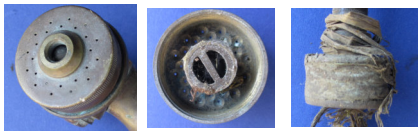


Above :- Drawing from Country Gentlemen's Association Price Book 1937. This type of syringe was available in five sizes. Handles were teak or rosewood as indicated below. Came with a jet, and fine and coarse roses.

Barrel Length 16 inches with a diameter 1¼ (Ladies). Teak or rosewood handle.
Barrel Length 20 inches with a diameter 1½ (Standard). Teak handle.
Barrel Length 20 inches with a diameter 1¾ (Large). Teak handle.
Barrel Length 16 inches with a diameter 1¼ (Ladies). Teak or rosewood handle.
Barrel Length 18 inches with a diameter 1½ (Standard). Rosewood handle.
Barrel Length 18 inches with a diameter 1¾ (Large). Rosewood handle.



Above :- [872] {4} UNDENTABLE syringe. Barrel length 20 inches with a diameter of 1⅛ inches. Internal barrel diameter ⅞ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel piston ⅝ inch in length. Rose nozzle on a swivel fitting (Patent GB190220051A dated 4 December 1902). The nozzle is marked "PATENT APPLIED FOR". The barrel end cap is embossed "THE UNDENTABLE SYRINGE INVENTOR THE FOUR OAKS NURSERY CO PATENT". It is also engraved with "389274", the meaning of which is unknown. The marks suggest a date of around 1902.

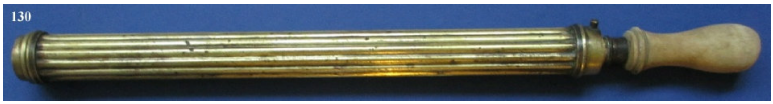


Above :- [985] [4] UNDENTABLE syringe. Barrel length 18 inches with a diameter of 1½ inches. Internal barrel diameter 1¼ inches. Hollow brass piston rod ½ inch in diameter. Cotton reel piston ⅝ inch in length. Rose nozzle with a central fast fill valve on a swivel fitting. The barrel end cap is embossed "THE UNDENTABLE SYRINGE INVENTOR THE FOUR OAKS NURSERY CO PATENT". The rose nozzle does not have any markings.

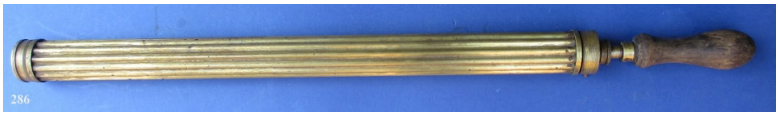
Four Oaks Spraying Machine Co

Above :- [109] {3} UNDENTABLE syringe. Barrel length 20 inches with a diameter of 1½ inches. Jet nozzle with a separate fast-fill valve controlled by a ball. Piston rod is hollow brass. Piston is of the cotton reel type enhanced by a forward facing leather cup washer. It has 'Four Oaks' engraved on the barrel end cap.

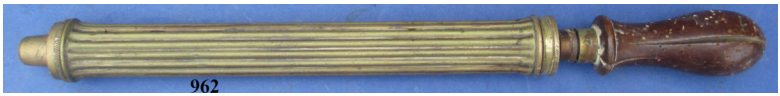
Above :- [123] {3} UNDENTABLE syringe. Barrel length 18 inches with a diameter of 1½ inches. Plain jet nozzle. Piston rod is hollow brass. Piston is of the cotton reel type. Note the air vent on the barrel end cap. Four Oaks is engraved on barrel end cap.



Above :- [130] {3} UNDENTABLE syringe. Barrel length 18 inches with a diameter of 1½ inches. Rose nozzle with a central fast-fill valve controlled by a ball. Piston rod is hollow brass. Piston is of the cotton reel type. Not marked Four Oaks, but assumed to be.



Above :- [286] {3} UNDENTABLE syringe. Barrel length 20 inches with a diameter of 1½ inches. Internal diameter 1¼ inches. Rose nozzle with a central fast-fill valve controlled by a ball. Piston rod is hollow brass. Piston is back-to-back leather cup washers.



Above :- [962 {5] UNDENTABLE syringe. Not marked but bearing all the characteristics of a Four Oaks sprayer, Barrel length10 inches with a diameter of 1⅛ inches. Jet nozzle with an integrated fast-fill valve controlled by a stud which is missing (see sprayer 493). Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Piston is of the cotton reel type supplemented with a leather washer.

Four Oaks Spraying Machine Co

Above :- [Photo 513] - Not in collection] UNDENTABLE syringe. Barrel length 18 inches with a diameter of 1¾ inches. Piston rod is hollow brass. It has 'Four Oaks' engraved on the barrel end cap.

Above :- [318] {4} UNDENTABLE angle jointed syringe . Barrel length 18 inches with a diameter of 1½ inches. Adjustable bend spray (Patent GB190220051). Nozzle with a side entry fast-fill valve controlled by a ball. Piston rod is hollow brass. Piston is of the cotton reel type. Missing handle.

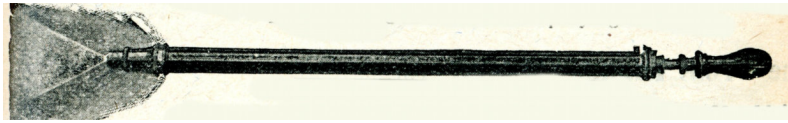
Above :- Drawing from Country Gentlemen's Association Price Book 1937. Fitted with a spray nozzle with a separate side entry fast-fill valve. Available with barrel length of 20 inches and diameter of 1⅛ inches or 1½ inches.

Above :- Drawing from Country Gentlemen's Association Price Book 1937. Fitted with a spray nozzle with a separate side entry fast-fill valve. Angle joint. Available with barrel length of 20 inches and diameter of 1⅛ inches or 1½ inches.

Above :- [618] {4} UNDENTABLE syringe. Barrel length 20 inches with a diameter of 1⅛ inches. Adjustable bend spray nozzle with an integrated side entry fast-fill valve. Piston rod is hollow brass. Piston is back-to-back leather cup washers.

Four Oaks Spraying Machine Co

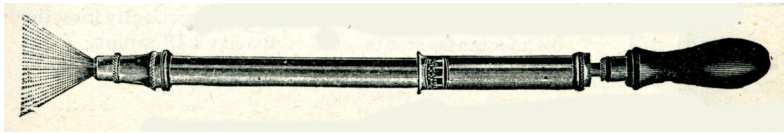
Plain Syringes



Above :- Drawing from Country Gentlemen's Association Price Book 1937. The plain syringe which came with either with or without an angle bend. Nozzle with side entry fast-fill valve as in the UNDENTABLE.

Barrel Length 14 inches with a diameter 1 inch
Barrel Length 20 inches with a diameter 1 inch
Barrel Length 20 inches with a diameter 1¼ inches.
Barrel Length 20 inches with a diameter 1½ inches.

A similar syringe appears in the 1954 Catalogue but only in the one inch size.



Above :- Drawing from Country Gentlemen's Association Price Book 1937. The plain syringe with drip preventing sleeve which came with either with or without an angle bend.

Barrel Length 14 inches with a diameter 1 inch
Barrel Length 20 inches with a diameter 1 inch
Barrel Length 20 inches with a diameter 1¼ inches.

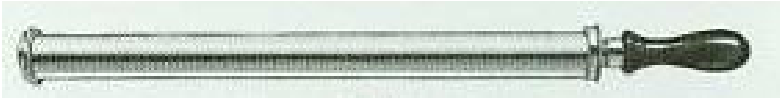
Above :- Model F12 in the 1954 catalogue. Barrel Length 20 inches with a diameter 1½ inches. Similar to the above but updated,

Above :- Superior quality syringe model D8 from 1954 Catalogue. Barrel length is 20 inches long with a diameter of 1 inch. Spray nozzle with an integrated fast-fill valve. It is assumed that this is of the same design as the nozzle shown below, but this needs to be verified by examining more examples. The syringe probably had a hollow piston rod and at this time may have had a back-to-back leather cup washer piston. It came with an additional rose nozzle with holder on the drip preventer for the nozzle not in use. Model D7 from the same catalogue is the same but 20 inches long with a diameter of 1 inch.

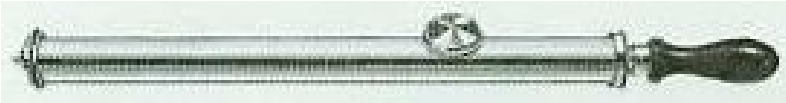
Four Oaks Spraying Machine Co

Above :- [493] {4} The barrel of this syringe is only 10 inches long with a diameter of 1 inch. There is no sign that it has been cut down. It has a hollow brass piston rod with a cotton reel type piston. Drip preventer length 5 inches. Bend and stuffing box. Nozzle is spray nozzle with an integrated fast-fill valve.

Left :- Components of the nozzle. The stud (centre) fits inside the nozzle casing (top) and is held in loosely by the screw (bottom). On the pull stroke this moves back allowing liquid to flow freely into the syringe. On the push stroke the stud moves forward causing the liquid to pass between a narrow gap around the end of the stud and the nozzles casing. This causes small droplets which are swirled around in the atomising chamber formed by the end of the stud and the outlet form the nozzle. This gives a fine spray.



Above :- Syringe numbered D3 in 1954 catalogue. Length 18 inches and diameter 1½ inches. Fixed rose. Syringe D1 Length 18 inches and diameter 1½ inches, and Syringe D2 Length 16nches and diameter 1¼ inches are similar and also in the catalogue.



Above :- Syringe numbered D5 in 1955 catalogue. Length 18 inches and diameter 1½ inches. Rose and jet nozzles. Syringe D4 Length 16 inches and diameter 1¼ inches is similar and in this catalogue.

Above :- Model D8 in the 1954 Catalogue. Illustrates a 14 inch x 1 inch plain syringe with a nozzle which has an integrated fast-fill valve.

Four Oaks Spraying Machine Co

Above :- [625] {4} Brass syringe. Barrel length 20 inches and diameter 1 inch. Hollow piston rod with a cotton reel type piston. Nozzle is missing.

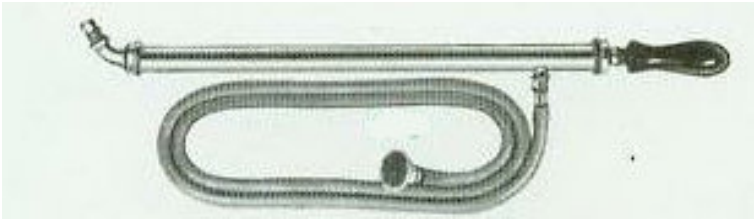
Above :- [597] {4} Brass syringe. Barrel length 14 inches and diameter 1 inch. Hollow piston rod with a cotton reel type piston. Nozzle is a detachable rose. This could be the F10 as illustrated in the1954 Catalogue, but missing the spray nozzle. Note the Four Oaks logo and drip director over the air vent.

Above :- Sprayer F10 from the 1954 Catalogue. Barrel length 14 inches and diameter 1 inch. Spray nozzle fitted with a separate side entry fast-fill valves.

Self-supplying Sprayers

Referred to by Four Oaks as “Suction Syringes”. Three different sprayers are known from the catalogues. In all cases the sprayer draws liquid from a source via a hose. The hose will either be fitted directly into a knapsack type tank or place in a container holding the liquid. In the latter case there would be filter on the end of the hose.

Single Action Suction (D9 in 1954 Catalogue**)**



Above :- Brass self-supplying single action syringe. Barrel length 16 inches and diameter 1 inch.

Four Oaks Spraying Machine Co

The EXCELSIOR suction syringe

Above :- The EXCELSIOR suction syringe. A double action self-supplying syringe of the type most associated with Solo Sprayers Ltd. It came with 10ft of hose, a rose nozzle and a coarse nozzle. In some illustrations it is shown with a separate sieve (strainer). The EXCELSIOR could be connected to various containers including a plastic knapsack.

Below :- With a container.

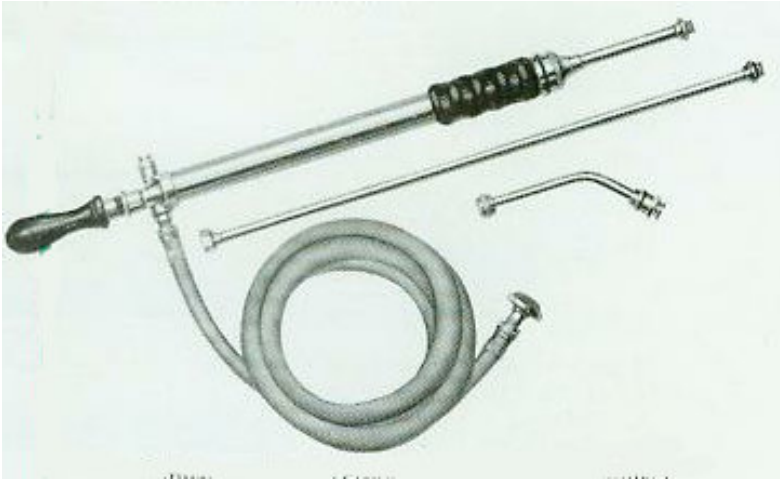
Four Oaks Spraying Machine Co

Above :- With galvanised container.

Above/Left :- With a painted container. Supplied with a webbing shoulder strap.

Four Oaks Spraying Machine Co

NEW IDEAL suction syringe



Above :- This appears to be a single action self-supplying sprayer, but it might be an implementation of patent GB281825A though its appearance does not support this. It is described in the 1954 Catalogue as having a metal plunger. Examination of an actual sprayer is required to identify how it worked as there are a few possibilities. In 1954 Catalogue this sprayer is advertised as being suitable for use with the knapsack as described for the EXCELSIOR. In the 1951 Catalogue it is shown with a metal strainer. It is not mentioned in the 1968 Catalogue.

MARVEL suction syringe

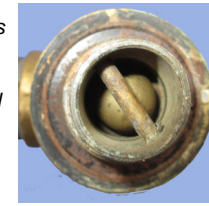
The MARVEL self-supplying sprayer is an implementation of patent GB367172A applied for on 14 February 1931 and granted on 18 February 1932. In a 1938 advertisement the sprayer is advertised as coming with 10ft of suction hose, which has a strainer, a 2ft brass extension piece, a tube bend and a strainer to fit any size bucket. Nozzles provided were a coarse nozzle for limewashing and a fine spray nozzle which could convert to a jet. This sprayer is an implementation of a force pump with an air chamber. On the pull stroke liquid is sucked into the barrel and on the push stroke this is forced into the air chamber and out through the nozzle. Air compressed on the push stoke continues the spraying while the pull stroke is taking place. The price in 1938 was £1.17.6. Also available was the MARVEL JUNIOR. This was a lighter form of the MARVEL. It was supplied with fine and coarse nozzles. Price in 1938 was £1.12.0.

Four Oaks Spraying Machine Co

Above :- [422] {2} This is probably the MARVEL JUNIOR. Barrel length 14 inches and diameter 1 inch. Piston on this example is not complete but is believed to have been back-to-back leather cup washers. Early versions may have used a cotton reel piston. Piston rod is solid brass. The nozzle is a spray nozzle with a spray plug which has a spiral groove to break the liquid into small droplets.

Left :- The bottom (inlet) valve is controlled by ⅜ ball.

Right :- The top valve controlled by a ½ ball.



Left :- View of interior showing the output tube.

Right :- The spray nozzle with cap removed.

Above :- MARVEL sprayer with angle bend. Note the grip on the barrel. Nozzle appears to be the MARVELLOUS nozzle which gives a wide cloud of spray 3ft across.

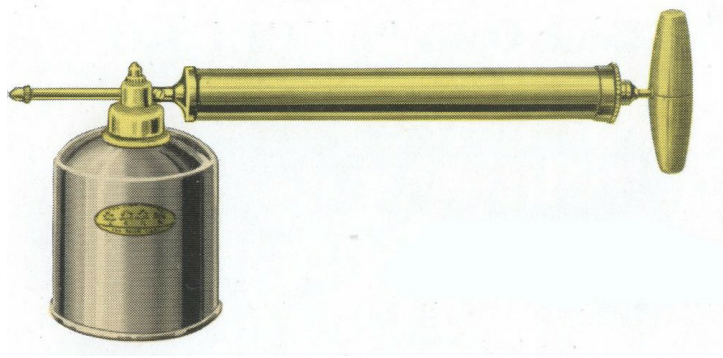
Four Oaks Spraying Machine Co

Left :- [944] {2} MARVEL sprayer with extension and angle bend. Barrel length 14 inches with a diameter of 1 inch. Back to pack leather cup washes pistons. Air chamber diameter 2½ inches with a length of 4 inches. Extension length 21 inches. Missing hose which probably had a filter. Brass piston rod. Grip on barrel.

Four Oaks Spraying Machine Co

Maney Sprayers

The MANEY sprayers are handheld pneumatic sprayers. They consist of a container which the user fills with liquid. An air pump and nozzle assembly connects to this. Output is through a tube which runs from the bottom of the container to the nozzle. The air pump is never in contact with the liquid. Pumping air into the container pressurises the air forcing liquid through the output tube and the nozzle. Some air passes directly through the nozzle breaking the liquid into a fine spray. Spraying stops almost as soon as the user stops pumping. All the MANEY sprayers appear to have the same spray unit, but with differing containers and pumps.



Above :- The MANEY. Available with a copper or brass container. Came with a straight spraying nozzle and one incorporating a bend, Capacity 1 pint.

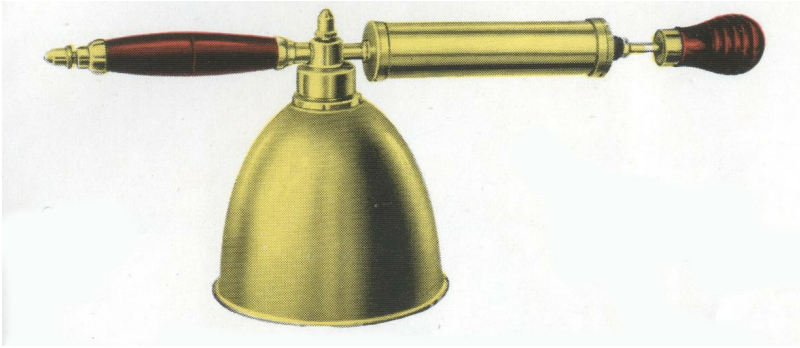
Above :- [855] {2} MANNEY sprayer with a brass container. Includes two nozzles with the one not in use fitting onto the top of the fitting. Barrel length 11 inches and diameter 1¼ inches. Capacity 1 pint.

Four Oaks Spraying Machine Co

Left :- Plate from MANEY sprayer.

Right :- The piston (incomplete). Probably had a forward facing leather cup washer.

Left:- Showing spray unit and the delivery tube through which the liquid flows under pressure supplied by the air pump. The tube continues into the nozzle. Air can pass alongside the delivery tube and mix with the liquid creating a liquid/air mix which gives a very fine spray. The valve is in the left hand tube and is not accessible to the user. It appears to be a simple ball valve.



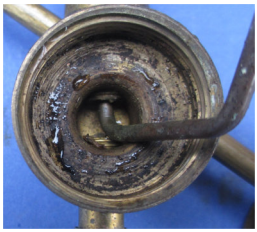
Above :- The MANEY DE LUXE. With a forward grip.

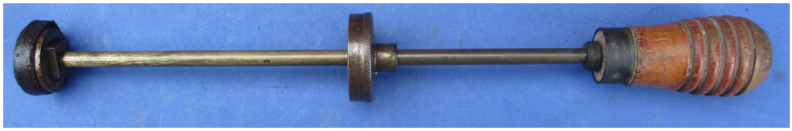
Four Oaks Spraying Machine Co

Above :- [969] {4} MANEY DE LUX . .Copper container. Includes two nozzles with the one not in use fitting onto the top of the fitting. Barrel length 11 inches and diameter 1¼ inches. Capacity 1 pint. Forward wooden hand grip. Pump has a single forwardfacing cup washer.

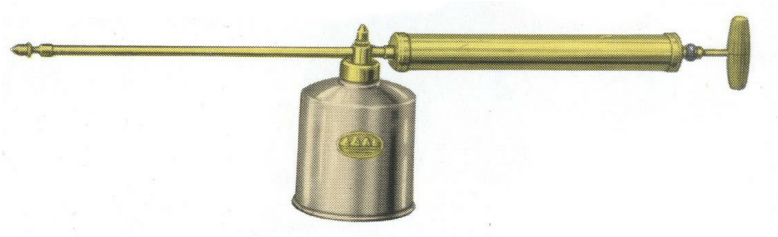
Right :- Supply tube for [969] MANEY DE LUX

Below :- Air passes from the pump into the container to force liquid through the supply tube. Some air also passes directly to the nozzle to atomise the spray. .

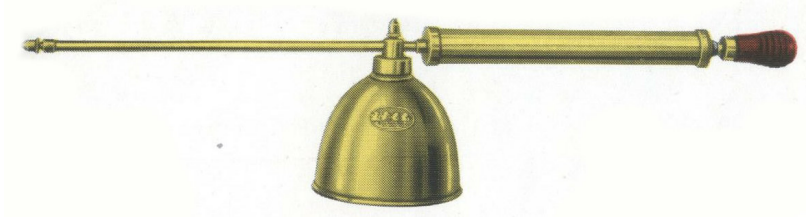




Four Oaks Spraying Machine Co



Above :- The MANEY No 3. Capacity 1 pint. With a longer nozzle extension.



Above :- The MANEY No 4. Capacity 1 pint. Similar to the MANEY DE LUXE but with a longer nozzle extension and larger pump.

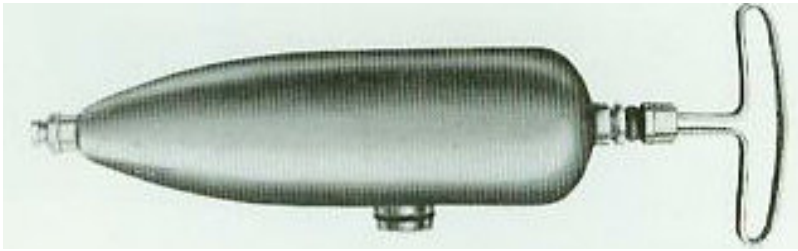
CHELSEA Sprayer

Above [870] and Left :- The CHELSEA sprayer. This appeared in the 1951 and 1954 catalogues. This is filled from the underside. Capacity about 3 pints. Spray nozzle. This sprayer had a displacement piston which means it doesn't have a piston head. There appears to be two versions of this sprayer. The one above with a plastic grip and outer barrel and the older version without the outer barrel and a wooden grip. The inlet valve is controlled by a ball (see left). This is accessible through the filler at the bottom of the container. There will be an outlet valve, but this is not accessible. The older version is single action spraying only on the push stroke. The version with the outer barrel could be double action with the outer barrel forming a pressure chamber which continues the spraying on the pull stroke.

Four Oaks Spraying Machine Co

PRINCESS Sprayer

Little is known about this sprayer and an example is needed to identify the full specifications and how it works. It was available in a number of colours. It may have worked on the same principle as the CHELSEA. It only appears in the 1954 Catalogue.



Other Sprayers

These sprayers are known to exist, but do not appear in any catalogues or advertisements I am aware of.

Four Oaks Portable Stirrup Pump.

This is known from EBAY advertisement. As these photographs are normally copyright they can't be used here. However, the sprayer is almost identical to a MYSTO (W T French & Son) sprayer, which is pictured below.

Left :- The MYSTO sprayer has MYSTO embossed on the air chamber. This is not present in the FOUR OAKS version, but the FOUR OAKS version does have a FOUR OAKS plate on the barrel (see example below).

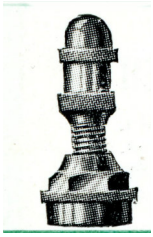
Four Oaks Spraying Machine Co

Recent Pneumatic

The photograph which is from another collection is identified as a recent pneumatic. It looks like the hose output is from the top of the cylinder which suggests that there is an internal tube running from the bottom of the container to the outlet at the top.

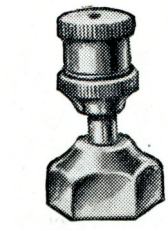
Four Oaks Spraying Machine Co

Nozzles



Left :-- Unchokeable No. 71. There is a needle held by a spring. If the nozzle gets clogged the liquid pressure forces the needle through the orifice, compressing the spring. This clears the nozzle and the spring returns the needle to its original position.

Used for thick liquids such as limewash. 1954 Catalogue.



Left :- No. 69. - This also has a needle. The top of the nozzle is normally in the position shown. If it gets clogged the user taps the nozzle on a hard surface. This forces a needle through nozzle orifice clearing the obstruction. 1954 Catalogue.

Left :- Double Swivel Nozzle No, 94. 1954 Catalogue.

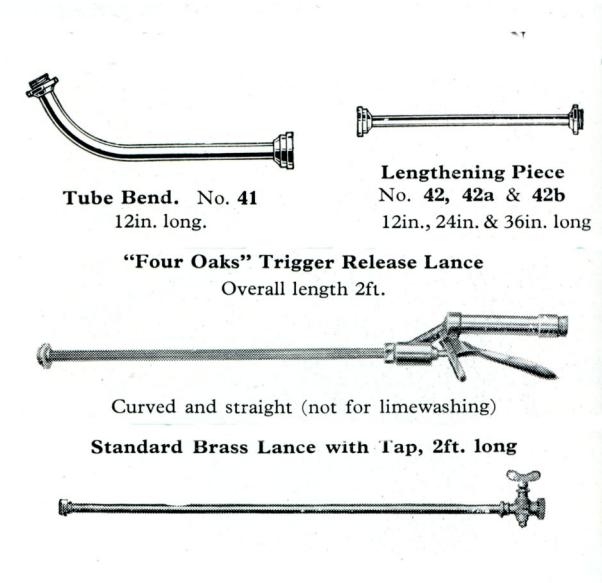
Left : Inside of part of the double nozzle. Liquid enters the nozzle through a small hole (top right) This breaks it into droplets which are swirled around before exiting as a spray through the nozzle cap (left). In 1954 four different caps were available, fine, medium, coarse and blank.

Four Oaks Spraying Machine Co

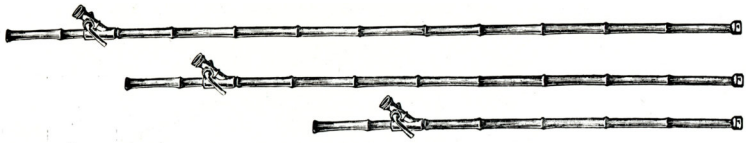
Left :- Three specialist nozzles. 1954 Catalogue. Nos. 93, 68, and 92.

Bends and Lances

The standard Four Oaks lance was 24 inches long. Bamboo extensions had an interior brass tube, with the bamboo giving strength. Additional nozzles were available for the mechanised sprayers.



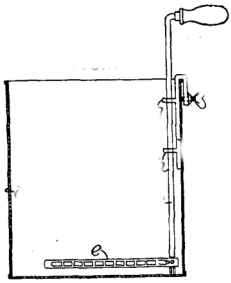
Four Oaks Spraying Machine Co



Above :- CONQUEROR, BRIDGWATER AND CHALLENGER. Showing bamboo extensions.

Separate agitator

Separate agitators were available for the bucket sprayers. Price in Catalogue 35A was £0.7.0. The agitator was covered by patent GB191228527A dated 16 October 1913.



Four Oaks Spraying Machine Co

The separate agitator was advertised for the following models :-

DAIRYMAN, DAIRYMAN DE LUXE, WIZARD, WIZARD DE LUXE, TRIUMPH and ROYAL.

Other Products

These are out of the scope of this publication, but are listed below for the sake of completeness. They appear in the 1954 and 1968 Catalogues.

Mechanised Sprayers

ELECTRIC LIMESPRAY, POPULAR MECHANISED SPRAYER, POWER SPRAY SENIOR MECHANISED SPRAYER, SPRAYMOBILE

Dusters

LITTLE WONDER and ROTADUSTO

Agricultural

CROP SPRAYERS, TRACTOR UNIT

Flame Guns

FLAME GUN No, 1, FLAME GUN No. 2, BODKIN Flame thrower (Patent GB373218A dated 17 May 1932)

Sprinkler

DAISY

Drain Testing Machine

MURPHEX

Four Oaks Spraying Machine Co

Appendix 1A - *1912 - Directions for lime washing machines. (First page)*

THE "FOUR OAKS"

COPYRIGHT REGISTERED TRADE MARK THE FOUR OAKS

GOLD MEDAL

Spraying & Limewashing Machines.

DIRECTIONS FOR USE.

FOR SPRAYING OR SYRINGING. Before filling the container with water or insecticides it is necessary to clean out all dirt, sediment, or straw, and so ensure that no particles can be sucked into the pump. Then partly fill the container with clean water and pump for several minutes. This will thoroughly clean the pipes, valves, etc.

FOR LIMEWASHING. Providing these instructions are carefully carried out we can guarantee satisfactory Limewashing.

Before commencing work make certain that the machine is thoroughly clean. It is best to clean it out with water as per directions printed above.

This operation should be repeated **each time after use,** as it is most important that the machine should be kept clean.

INSTRUCTIONS FOR THE PREPARATION OF LIMEWASH. To obtain the best result from a Limewashing Machine it is of great importance that the limewash should be prepared with care, and also that a fairly good quality lime should be used, Buxton lime is the best.

The lime should be placed in a tub or other receptacle, and must be slaked by pouring water upon it. The quantity of water should not exceed the amount that the lime can readily absorb. After the water is sprinkled on the lime you will find it will commence to crack and split up, and steam will be emitted. It will then gradually dissolve into fine dry powder, and water can then be added, and the whole stirred up until it is of the desired consistency. A consistency about the same as cream is the most satisfactory.

The limewash must be passed through the strainer which is provided with the machine.

A little size may be added with advantage, or if preferred, an addition of a small quantity, say 2 per cent. of salt can be added to fix the solution.

An addition of about ½ lb. of Blue to 50 gallons of water gives an improved colour for walls.

The Spraying Nozzle should be held about twelve inches from the wall for Limewashing, and when working close to windows or doors it is best to work rather closer and reduce the pressure. You will then ensure that **no splashes** go on to windows or woodwork. For reaching high walls or ceilings, see Long Tubes quoted on back. You must not attempt to limewash high walls with the short brass rod.

Move the spray **rapidly** along from left to right, and right to left, **without stopping. Never spray too long in one place,** or it will run and spoil the effect. Do not give a second coat before the first coat is dry.

The Spray can be instantly stopped by turning off the tap. When not spraying lay the Spraying Rod across the machine, not with nozzle downwards or the nozzle will become clogged.

Should the Limewash at any time be inclined to run, it shows either that the wash is not thick enough or that the operator is not moving quickly enough along the wall.

Should any splashing occur, the operator is putting too much pressure on the pump, or holding nozzle too near the wall.

Anyone who has never used a Limewashing machine before can become proficient in a few minutes by **first practising spraying a wall with plain water.**

SPECIAL NOTE. **Only Nozzles No. 69, as illustrated below, or No. 71, illustrated on back, can be used for Limewashing. These Nozzles are specially labelled. Should No. 69 Nozzle at any time clog, it can be instantly unclogged by tapping against the wall, when the Ejector Pin will clear any obstruction out of the orifice.**

The Limewashing Nozzle, No. 69 Price, 5/6

The other Nozzle, No. 51, supplied with the machine, is not suitable for limewashing and must not be used for that purpose. It is designed for Spraying with fine liquids only, or for washing down. **This nozzle will be found screwed on back of pump, near handle.**

When the small cap is inside, nozzle No. 51 gives a very fine spray suitable for trees or disinfecting.

By taking out the small cap, a straight jet is obtained, suitable for carriage or window washing, etc.

Nozzle No. 51 Price, 4/6

Do not put unnecessary pressure on the pump when working, or put pressure on when tap is turned off, or you will burst the hose pipe.

These Machines can also be used for Sanitary Water Paints, in the same way.

OILING. The machines should always be kept well oiled.

With the bucket type of Limewashers, the piston rods should be oiled **before** and **after** use.

Instructions in a nutshell—

PUMP EASILY! KEEP MOVING!

HOLD NOZZLE ABOUT 12 INCHES FROM WALL.

Copyright, 1912

P.T.O.

Four Oaks Spraying Machine Co

Appendix 1B - *1912 - Directions for lime washing machines*

A FEW USEFUL EXTRA
ACCESSORIES FOR THE
"FOUR OAKS"
LIMEWASHING MACHINES

REGISTERED TRADE MARK
THE FOUR OAKS

All these useful Accessories will fit ANY of our Machines, all parts being universal in size

"Four Oaks" Straight Jet for washing, etc.
No. 17 Price, **3/9**
This Jet converts any Machine into a FIRE EXTINGUISHER.

"Four Oaks"
Tube Angle Bend, 12 inches long.
No. 41 Price, **2/6**
An invaluable addition to any machine.

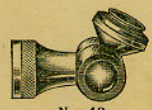
"Four Oaks"
Lengthening Pieces to fit on to any of the lances.
12 inches long.
No. 42 Price **2/6**

"Four Oaks"
Unchokable Nozzle.
(Patent No. 11,000)

No. 71
An Unchokable Nozzle.
This Nozzle automatically clears if at any time it clogs. We recommend this nozzle for use with thick and gritty lime.
If your lime is ever inclined to choke, this is the nozzle to use.
Price, **6/6**

The "Four Oaks"
Marvellous Nozzle, **No. 68**

Gives a wide cloud of Vapour-like spray 3 feet across.
Price, **4/6**



No. 43
"Four Oaks" Movable Angle Joint.
Most popular, enables user to Spray or Limewash easily in most difficult places. We recommend every purchaser of one of our machines to have one of these.
Price, **6/6**

"Four Oaks" Bend, **No. 40**
For Spraying and Limewashing the undersides of branches, etc.
Price, **2/6**

Cattle Nozzle, **No. 45**
A very useful appliance for farmers and veterinary surgeons. Wood, lined with aluminium. Can be used with any of our machines. Price, **13/6**

"Four Oaks" Long Tubes for Limewashing high walls or spraying tall trees.
"FOUR OAKS" Bamboo Lances, with interior brass tube, stopcock, and all fittings.

4ft.	Price,	15/-
6ft. 6in.	,,	25/-
8ft.	,,	27/6
10ft. 6in.	,,	30/-
13ft.	,,	34/6
15ft.	,,	37/6

Extra Lengths of Best Quality Rubber Tubing.

6ft. length complete with brass Unions	Price,	11/6
10ft. ,, ,, ,,	,,	16/6
12ft. ,, ,, ,,	,,	19/-
15ft. ,, ,, ,,	,,	22/9

If armoured, 3d. per foot extra.

Extra Limewashing Nozzles, No. **69**, can be supplied at **5/6** each.
,, Spraying Nozzles, No. **51**, ,, ,, **4/6** ,,
Any other part of the machine can be replaced at any time by quoting name of pattern and date supplied.

LIME.—**If you have any difficulty in obtaining good Lime, we can supply barrels containing nearly 1 cwt. of Buxton Lime, at 9/- per barrel. CARRIAGE FORWARD. This Lime is very economical in use and will go as far as 2 or 3 cwts. of ordinary Lime. It is also free from grit.**

"Four Oaks" Patent Agitator.
No. 44
For use with bucket types of machine.
A most useful little contrivance for stirring up liquid instantly.
We recommend every user of bucket machines to purchase one of these.
When ordering, state for which machine it is required.
Price, **6/-**

Copyright, 1912

We now make up special Repair and Spare Parts Outfits for each machine. Please send for List.

Four Oaks Spraying Machine Co

Appendix 2 - *1911/1912 Advertisement. The same picture was still used in 1930 advertising.*

Every Genuine "FOUR OAKS" Machine bears our Registered Trade Mark.

REGISTERED TRADE MARK
THE FOUR OAKS

Beware of inferior imitations which, though possibly cheaper, are worthless and costly in the end.

The "FOUR OAKS" Spraying and Limewashing Machines.

Awarded PREMIER Honours at all the leading Shows.

Between **two and three hundred square feet** of surface can be limewashed in **five** minutes.

The "ROYAL" Pattern. £3 10 0.

These Machines are also suitable for

Spraying and Limewashing of every description.

Invaluable not only for Limewashing Buildings, but for Spraying Cattle and Sheep for Fly, Fruit Trees for Insect Pests, &c.

Save their cost in one week.

The "DAIRYMAN" Pattern. £2 10 0.

No Farmer, Cowkeeper, Dairyman, &c., can afford to be without one of these machines.

The "FOUR OAKS" machines have powerful pumps giving plenty of force behind the Spray, which ensures penetration of the fluid into all the minute cracks and crevices where disease and pests breed, and which cannot be reached by a brush.

CATALOGUES FREE ON APPLICATION.

Sole Patentees and Manufacturers:

The "FOUR OAKS" Undentable Syringe & Spraying Machine Co.,

Spraying Specialists, **SUTTON COLDFIELD, BIRMINGHAM.**

Four Oaks Spraying Machine Co

Appendix 3

Four Oaks Knapsack Sprayer at work.

Four Oaks Spraying Machine Co

Appendix 4 - *1927 Advertisement (From Grace's Guide to British Industrial History)*

THE BEST XMAS PRESENT you can give your Farmer or Gardening Friend is a FOUR OAKS Spraying Machine.

Speedy Lime-washing and Spraying

Keep Your Pig-Houses, Cow Houses, Stables, etc., Sweet and Clean by the use of a

REGISTERED TRADE MARK
THE FOUR OAKS

"FOUR OAKS" LIMEWASHING, DISINFECTING AND SPRAYING MACHINE

GOLD MEDAL

"Wizard de Luxe" Pattern
(Registered Design)

Lever Action to Pump. Easy Working. Swinging fulcrum, allowing operator to stand in any desired position to work.

Registered Design.

PRICE.—Complete with 10ft. Rubber Hose, Brass Spraying Arm with Stop-cock, Strainer, Limewashing Nozzle and Spraying Nozzle, which also forms straight jet,

£5 : 5 : 0

Carriage Paid to any address in England, Wales, Scotland or Ireland.

Capacity 6 gallons.

Very Strong Fluted Container (Registered).

An invaluable machine for every garden.

Suitable for all kinds of Spraying. Will wash down your Motor Car.

Compact, handy shape for carrying.

Spare parts outfit for this machine, Box B, 3/- extra.

Other patterns from **32/6** to **£25**

Complete Catalogue free on application to the

Sole Manufacturers: **The Four Oaks Spraying Machine Co.**
Four Oaks Works, Four Oaks, Sutton Coldfield, Birmingham.
Telegrams: "Sprayers, Four Oaks" Telephone: 305 Sutton Coldfield.

Four Oaks Spraying Machine Co

Appendix 5 - *1927 Advertisement (From Grace's Guide to British Industrial History)*

"FOUR OAKS" GOLD MEDAL
SPRAYING, LIMEWASHING & DISINFECTING MACHINES

REGISTERED TRADE MARK — THE FOUR OAKS

The "Four Oaks" way of quick and easy Limewashing, Colourwashing, Distempering, Disinfecting and Cement Washing.

(1) Illustration shows **"Wizard"** Pattern Limewashing a wall. **Price** of "Wizard" Pattern, as illustrated (capacity 6 gallons) and complete with 10ft. rubber hose and two nozzles, **£4 19 6**

The "Four Oaks" "WIZARD-de-LUXE" Pattern. (2). **(Registered design).** **Very Strong Fluted Bucket,** Similar to the **"Wizard."** Pattern in capacity, but fluted container and **Armoured Hose. £5 5 0.**

The "Four Oaks" "DAIRYMAN" Pattern. (3)

Capacity, 6 gallons.

Very Strong Container.

Complete with 6ft. best quality Hose, Strainer, Spraying Nozzle (which also forms Straight Jet) and Limewashing Nozzle. **£4 0 0.**

Agitator, if desired, **6/-** extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

The "Four Oaks" "DAIRYMAN-de-LUXE" Pattern. (4) Similar to the **"Dairyman"** in capacity, but **Powerful Brass Pump with Brass Airchamber,** Armoured Hose. **£4 5 6.** Extras same as **"Dairyman"** Pattern.

The "Four Oaks" "FARMER" Pattern. (5)

Powerful Brass Pump, suitable for Spraying any Liquid, including Limewash

Capacity, 4 gallons.

THE CHEAPEST RELIABLE LIMEWASHER OBTAINABLE.

Complete with 6ft. best quality Hose, Strainer, Spraying and Limewashing Nozzles. **£3 2 6.**

Agitator, if desired, **6/-** extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

The "Four Oaks" "FARMER-de-LUXE" Pattern. (6)

Very Strong Fluted Bucket (Registered design).

Similar to the "Farmer" Pattern in capacity, but fluted container and powerful pump with brass air-chamber, and **Armoured Hose.**

Price, complete with **6ft. Armoured** Hose, two Nozzles, **Bucket and Strainer. £3 8 0.**

Agitator, if desired, **6/-** extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

The "Four Oaks" "TRIUMPH" Pattern. (7)

Double Action Lever Pump.

Efficient Air Chamber, complete with 10ft. best Armoured Hose, Brass Spraying Arm with Stopcock, Strainer, Spraying Nozzle (which also forms straight Jet) and Limewashing Nozzle. **£5 5 0.**

Agitator, if desired, **6/-** extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

☛ **IMPORTANT.**—All the above goods are **always ready in stock,** and despatch **is guaranteed same day** orders are received.

Sole Manufacturers: **THE FOUR OAKS SPRAYING MACHINE CO.,** **THE SPRAYING SPECIALISTS,**

FOUR OAKS WORKS, FOUR OAKS, SUTTON COLDFIELD, BIRMINGHAM.

Telegrams: "Sprayers, Four Oaks." **COMPLETE CATALOGUES FREE ON APPLICATION.** Telephone: 305 Sutton Coldfield.

ABOVE PATTERN NUMBERS CAN BE USED AS MERCHANT CODE NUMBERS.

Four Oaks Spraying Machine Co

Appendix 6 - *1927 Advertisement (From Grace's Guide to British Industrial History)*

"FOUR OAKS" GOLD MEDAL
SPRAYING, LIMEWASHING & DISINFECTING MACHINES

REGISTERED TRADE MARK — THE FOUR OAKS

The "Four Oaks"
"COLONIAL" Pattern (8)
Spray Pump.

All Brass Pump and Malleable Iron Stand. For use in low and small buildings **only**, such as fowl houses, etc., but **not** for general farm work. Also useful for washing traps, motor cars, etc.

This Pump is supplied with one Nozzle only. **£1 12 6.**

Can be supplied with 2ft. 0in. Brass Rod with Stop Tap, at **5/-** extra. Can also be supplied with additional Nozzle for Fine Spraying. **4/6** extra.

☞ This pump is ideal for washing down a motor car. (For this purpose specify with Bordeaux Nozzle).

The "Four Oaks"
"LITTLE GIANT" (12)
Capacity, 12 gallons.

Automatic Agitator. Ball Valves. Complete with 12ft. best quality Hose. Brass Spraying Arm with Stopcock. Strainer. Spraying and Limewashing Nozzles. **£11 10 0.**

"HANDY" Pattern (13)

Similar Machine to "Little Giant," but 10-gallon Container and one wheel only. **£11 0 0.**

Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

The "Four Oaks"
"ATTACHABLE" (9)
Limewashing and Spraying Pump.

To fit on any Barrel, or for Pumping from a well, stream or reservoir.

No. 1.—(Small size). Complete with Pump and Fittings for attaching, Strainer, 15ft. best quality Hose, Limewashing and Spraying Nozzles. **£7 0 0.**

No. 2.—Same design, but twice the capacity. Much more powerful. **£9 0 0.**

No. 3.—"**Southern Cross**" Pattern, smaller and lighter type of pump than either of above. **£4 0 0.**

Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

The "Four Oaks"
"STAFFORD" Pattern (14)
An Ideal Limewasher and Fruit Tree Sprayer.

Most efficient Agitator. Very powerful Brass Pump. Capacity, 18 gallons. Pump instantly removed for cleaning, etc.

Complete with 12ft. best quality Hose, Agitator, Strainer, Limewashing and Spraying Nozzles.

£15 0 0. Reg. Design.

Unchokable Nozzle, if desired, in lieu or ordinary Limewashing Nozzle, **2/-** extra.

The "Four Oaks"
"VICTOR" Pattern (10)
6-gallon container.

The Cheapest Machine we make for wheeling about.

Complete, as illustrated, with 10-ft. Hose.

Spraying and Limewashing Nozzles, etc. **£7 10 0.**

VICTOR No. 2.

Same Machine in 10-gallon Container. **£8 0 0.**

VICTOR JUNIOR (11)

6-gallon, cheap light form of "Victor." **£7 0 0.**

Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

The "Four Oaks"
"BRIDGWATER" Pattern (15)

An exceptionally good Limewashing and Spraying Machine.

The machine we recommend for heavy work.

Also makes an efficient fire extinguisher. This high-class machine consists of an 18-gallon Galvanised Tank with powerful Brass Pump, Agitator, 15ft. of 3-ply best quality Armoured Hose, Brass Tube with Tap, special Spraying Nozzle for Limewash, also Nozzle for Fruit Tree Spraying, and a Plain Jet for washing with water, Strainer, etc. **£17 10 0.**

Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

☞ **IMPORTANT.**—All the above goods are **always ready in stock,** and despatch is **guaranteed** same day orders are received.

Sole Manufacturers: **THE FOUR OAKS SPRAYING MACHINE CO.,** THE SPRAYING SPECIALISTS,

FOUR OAKS WORKS, FOUR OAKS, SUTTON COLDFIELD, BIRMINGHAM.

Telegrams: "Sprayers, Four Oaks." **COMPLETE CATALOGUES FREE ON APPLICATION.** Telephone: 305 Sutton Coldfield.

ABOVE PATTERN NUMBERS CAN BE USED AS MERCHANT CODE NUMBERS.

Four Oaks Spraying Machine Co

Appendix 7 [E1] - *1927 Advertisement*

Spraying

"FOUR OAKS"

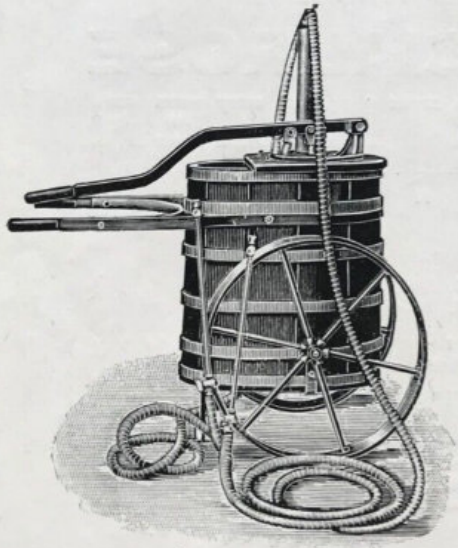
(GOLD MEDAL)

FRUIT TREE SPRAYING AND LIMEWASHING MACHINE.

"Battle" Pattern

Extreme width overall—

18-gallon Machine: 23 inches.
25-gallon Machine: 26 inches.



COPYRIGHT REGISTERED TRADE MARK THE FOUR OAKS

The best Fruit Tree Spraying and Limewashing Machine on the Market.

Powerful Pump. Elliptical oak container will take ANY washes. Large wheels. Easily moved about. Powerful agitator.

One of England's leading fruit growers writes:

"I consider your 'Battle' Machine the only PRACTICAL Fruit Tree Sprayer I have yet seen."

PRICES:

18-gallon Elliptical Oak Container, 24in. Wrought-iron Wheels, 2¼in. Brass Pump, one 15ft. length of best quality Armoured Hose, Short Brass Rod, Spraying Nozzle, etc.

£2 17 6

25-gallon Machine ditto, with 2¾in. Brass Pump and 30in. Wheels

£30 0 0

We manufacture numerous models suitable for all purposes.

Price from 30/-

Complete catalogues free on application

Do you require an excellent Spraying Syringe either for Greenhouse or Outdoor? If so, order our No. 9 1½ by 20. **Price 18/9.** The only Spraying Syringe ever awarded a Gold Medal.

Sole Manufacturers: **The Four Oaks Spraying Machine Co.**

Four Oaks Works, Four Oaks, Sutton Coldfield, Birmingham.

Telegrams: "Sprayers, Four Oaks." Telephone: 305 Sutton Coldfield.

Four Oaks Spraying Machine Co

Appendix 8 - *1930 Benn's Encyclopaedia of Hardware*

STOCK LINES ready for immediate delivery.

The Gold Medal "Four Oaks"

Spraying & Lime-washing Machines

THE ORIGINAL AND BEST MACHINES ON THE MARKET

"FARMER" Pattern

Powerful Brass Pump, suitable for spraying any Liquid, including Limewash

Capacity 4 gallons.

THE CHEAPEST RELIABLE LIMEWASHER OBTAINABLE

Complete with 6 ft. best quality Hose, Strainer, Spraying and Limewashing Nozzles.

£3 2 6

Agitator, if desired, 6/- extra.

Unchokable Nozzle, if desired, 2/- extra.

"DAIRYMAN" Pattern

Capacity 6 gallons.

Very Strong Container.

Complete with 6 ft. best quality Hose, Strainer, Spraying Nozzle (which also forms Straight Jet) and Limewashing Nozzle

£4 0 0

Agitator, if desired, 6/- extra.

Unchokable Nozzle, if desired, 2/- extra.

MANUFACTURERS OF SPRAYING SPECIALITIES

"TRIUMPH" Pattern

Double Action Lever Pump

Efficient Air Chamber, complete with 10 ft. best Armoured Hose, Brass Spraying Arm with Stopcock, Strainer, Spraying Nozzle (which also forms straight Jet), and Limewashing Nozzle,

£5 5 0

Agitator, if desired, 6/- extra.

Unchokable Nozzle if desired, 2/- extra

The "VICTOR" Pattern

6 gallon container.

The Cheapest Machine we make for wheeling about.

Complete as illustrated with 10 ft. Hose, Spraying and Limewashing Nozzles, etc.

£7 10 0

TO MEET THE HOME AND OVERSEAS MARKETS

"FOUR OAKS" GOLD MEDAL KNAPSACK SPRAYERS

The machines which have beaten other makes in open competition again and again.

Government approved Standard Pattern.

The "Four Oaks" External Type. The "Four Oaks" Internal Type

No. 101.

Brass Ball Valves, Brass Pump, all working parts outside container. £4 10 0

No. 106.

The original type of Knapsack Sprayer, with Rubber diaphragm pump and rubber valves. £4 10 0

The "BRIDGWATER" Pattern

An exceptionally good Limewashing and Spraying Machine.

The machine we recommend for heavy work.

The special feature of this Pump is that the pump bucket works entirely outside the liquid.

This Machine secured "Tropical Life" Gold Medal at the International Rubber Exhibition, London, in competition with other makes.

Also makes an efficient fire extinguisher.

£17 10 0

This high-class machine consists of an 18-gallon Galvanised Tank with powerful Gun-metal Pump, Agitator, 15 ft. of 3-ply best quality Armoured Hose, Brass Tube with Tap, special Spraying Nozzle for Limewash, also Nozzle for Fruit Tree Spraying, and a plain Jet for Washing with water, Strainer, etc.

Complete Catalogues, containing full Lists of Four Oaks Spraying, Limewashing and Disinfecting Machines, from 6d/6 each; also Spraying Pumps, from 33/6, Spraying Syringes, Garden Syringes and General Horticultural Brassfoundry, free on application to the Sole Manufacturers:

THE "FOUR OAKS" SPRAYING MACHINE CO., FOUR OAKS WORKS Sutton Coldfield, BIRMINGHAM, ENGLAND

Telegrams and Cables: "SPRAYERS, FOUR-OAKS." Codes: A B C and WESTERN UNION. Telephone: No. 205 SUTTON COLDFIELD.

The above and many other lines are kept ready in stock for immediate delivery.

Four Oaks Spraying Machine Co

Appendix 9A - *Catalogue 35 - Revised Price List*

REVISED REDUCED PRICES

Catalogue No.

Page.		£	s.	d.
4	**Wizard Pattern**	4	19	6
5	**Farmer „**	3	2	6
6	**Farmer-de-Luxe**	3	8	0
7	**Dairyman Pattern**	4	0	0
8	**Dairyman-de-Luxe**	4	5	6
9	**Warwick Pattern**	4	10	0
10	**Wisbech „**	4	15	0
11	**Wizard „**	4	19	6
12	**Triumph „**	5	5	0
13	**Royal „**	5	10	0
13	**Royal Junior „**	4	10	0
14	**Victor „** 6 gallon	7	10	0
14	**Victor No. 2 „** 10 gallon	8	0	0
14	**Victor Junior Pattern,** 6 gallon, lighter form of "Victor"	7	0	0
15	**Handy Pattern**	11	0	0
16	**Little Giant**	11	10	0
17	**Rochester**	9	15	0
18	**Conqueror**	15	0	0
18	**Somerset**	12	10	0
19	**Stafford**	15	0	0
20	**Challenger**	15	10	0
21	**Shenstone**	19	17	6
22	**Bridgwater**	17	10	0
22	**Bridgwater-de-Luxe**	25	17	6
23	**Ely, 18 gall.**	20	17	6
	If with two 15ft. lengths of Hose and Fittings	22	15	0
	If with Pressure Gauge, extra	1	10	0
24	**Battle, 18 gall.**	24	17	6
24	**Battle, 25 gall.**	30	0	0
	If with two 15ft. lengths of Hose and Fittings, extra	1	17	6
	If with Pressure Gauge, extra	1	10	0
25	**Southern Cross**	4	0	0
26	**Attachable No. 1**	7	0	0
26	**Attachable No. 2**	9	0	0
27	**Belwell, No. 301**	3	7	6
	Perforated Strainer, extra		10	6
28	**Colonial Pump**	1	12	6
	Can be supplied with 2ft. Brass Rod with Stop Tap, extra		5	0
	Can also be supplied with additional fine Nozzle for spraying		4	6
29	**Little Wonder Dry Powder Distributor**	3	10	0

Page.		£	s.	d.
31	**Knapsack Sprayer, No. 101**	4	10	0
31	**„ „ No. 102**	4	17	6
32	**„ „ No. 106**	4	10	0
32	**„ „ No. 107**	4	17	6
33	**Kent Sprayer No. 2**	6	0	0
33	**„ „ No. 4**	5	3	0
33	**„ „ No. 6**	4	2	0
34	**New Combination Knapsack Sprayer No. 400**	7	7	6
34	**„ „ No. 401**	6	15	0
35	**Streetly Sprayer**	2	15	0
35	**Streetly-de-Luxe**	2	19	6
35	**Streetly-de-Luxe No. 2**	1	19	6
36	**Sanitor**	3	2	0
37	**Unchokable Nozzle No. 71**		6	6
	If in lieu of ordinary Nozzle, extra		2	0
37	**Agitator No. 44**		6	0
37	6ft. length of Rubber Tubing, ½in. plain, complete with Unions		11	6
37	10ft. ditto ditto		16	6
37	15ft. ditto ditto	1	2	9
37	Armoured Hose, per ft. extra over plain			3
37	If without Unions, per length less		4	0
37	**Marvellous Nozzle No. 68**		4	6
37	**Cattle Nozzle No. 45**		12	6
37	**Strainer Rod**		7	6
38	**Straight Jet, No. 17**		3	9
38	**Angle Joint, No. 43**		6	6
38	**Tube Angle Bend, No. 41**		2	6
38	**Lengthening Piece, No. 42**		2	6
38	**Bend No. 40**		2	6
38	**Long Bamboo Lances :—**			
	4ft. 0in.		15	0
	6ft. 6in.	1	5	0
	8ft. 0in.	1	7	6
	10ft. 6in.	1	10	0
	15ft. 0in.	1	17	6
39	**Leather Belt and Socket**		12	6
39	**Single Swivel Nozzle**		6	0
39	**Double Swivel Nozzle**		9	0
39	**Limewashing Nozzle, No. 69**		5	6
39	**Four Oaks Nozzle, No. 51**		4	6
39	**Seneca Nozzle**		4	6
40	**Portable Fire Pump No. 1**	5	10	0
40	**„ „ „ No. 2**	3	7	6

P.T.O. for Prices of Repair and Spare Parts Outfits.

Four Oaks Spraying Machine Co

Appendix 9B - *Catalogue 35 - Revised Price List*

The "FOUR OAKS"
REPAIR AND SPARE PARTS OUTFITS

Made in the following patterns:		PRICE, if sent with a machine.	PRICE, by post separately, including postage
Box A	For Farmer, Farmer-de-Luxe, Dairyman, Dairyman-de-Luxe, Royal, Warwick, Wisbech, Colonial, Belwell, Canwell	2/6	2 10
Box B	For Wizard, Triumph, and Victor ..	3/-	3/4
Box C	For Handy, Little Giant, Rochester, Conqueror, Somerset	4/6	4/11
Box D	For Bridgwater and Small Battle ..	5/6	5/11
Box E	For Stafford, Shenstone, Challenger ..	5/6	5/11
Box F	For Bridgwater-de-Luxe, Ely, Large Battle	6/-	6/5
Box G	For Southern Cross Pump	3/-	3/4
Box J1	For Attachable Pump, No. 1	4/6	4/11
Box J2	For Attachable Pump, No. 2	4/6	4/11
Box H	For Four Oaks Knapsack Sprayers, External Pump Type Nos. 101 and 102	5/6	5/11
Box K2	For Kent No. 2	5/6	5/11
Box K4	For Kent No. 4	5/6	5/11
Box K6	For Kent No. 6	5/6	5/11
Box L	For Four Oaks Knapsack Sprayers, Combination Pattern Nos. 400 and 401	5/6	5/11
Box M	For Four Oaks Knapsack Sprayers, Internal Type Nos. 106 and 107	5/6	5/11
Box N	For Streetly Pattern	3/-	3/4
Box O	For Streetly-de-Luxe Pattern	3/-	3/4
Box P	For Sanitor Pattern	3/-	3/4

Four Oaks Spraying Machine Co

Appendix 10A - *Catalogue 35A - Models and Prices from the Catalogue (Red = not illustrated)*

Page No.	Model	Price	Spare Part Outfit
4	WIZARD	£5.14.6	B - £0.3.6
5	FARMER	£3.12.0	A - £0.3.0
6	FARMER DE LUXE	£3.18.6	A - £0.3.0
7	DAIRYMAN	£4.12.0	A - £0.3.0
8	DAIRYMAN DE LUXE	£4.18.6	A - £0.3.0
9	WARWICK	£5.3.6	A - £0.3.0
10	WISBECH	£5.9.6	A - £0.3.0
11	WIZARD DE LUXE	£6.1.0	B - £0.3.6
12	TRIUMPH	£6.1.0	B - £0.3.6
13	ROYAL	£6.6.6	A - £0.3.0
14	VICTOR No.1 6 gallon	£8.12.6	B - £0.3.6
14	VICTOR JUNIOR	£8.1.0	B - £0.3.6
14	VICTOR No. 2 10 gallon	£9.4.0	B - £0.3.6
15	HANDY	£12.13.0	C - £0.5.6
16	LITTLE GIANT	£13.14.6	C - £0.5.6
17	ROCHESTER	£11.4.6	C - £0.5.6
18	CONQUEROR	£17.5.0	C - £0.5.6
18	SOMERSET	£14.7.6	C - £0.5.6
19	STAFFORD	£17.5.0	E - £0.6.6
19	STAFFORD JUNIOR	£15.10.6	E - £0.6.6
20	CHALLENGER	£17.16.6	E.- £0.6.6
21	SHENSTONE	£22.17.6	E - £0.6.6
22	BRIDGWATER	£20.2.6	D - £0.6.6
22	BRIDGWATER DE LUXE	£29.15.6	F - £0.7.0
23	ELY	£24.0.6	D - £0.6.6
24	BATTLE - Oak 18 gallon	£28.12.6	D - £0.6.6
24	BATTLE - Oak 25 gallon	£34.10.0	F - £0.7.0
24	BATTLE extra hose 15 ft	£2.3.0	
24	BATTLE pressure gauge	£1.14.6	
25	SOUTHERN CROSS	£4.12.0	G - £0.3.6
26	ATTACHABLE 1	£8.1.0	J1 - £0.5.6
26	ATTACHABLE 2	£10.7.0	J2 - £0.5.6
27	YENTON	£1.17.6	A - £0.3.0
28	COLONIAL	£1.12.0	A - £0.3.0
28	COLONIAL JUNIOR	£1.7.0	A - £0.3.0
29	WEEFORD	£9.1.6	R - £0.9.0
31	KNAPSACK EXTERNAL 101	£5.3.6	H - £0.6.6
31	KNAPSACK EXTERNAL 102	£5.12.6	H - £0.6.6
32	KNAPSACK NEW COMB. 400	£8.10.0	L - £0.6.6
32	KNAPSACK NEW COMB. 401	£7.15.6	L - £0.6.6
33	KENT No. 2	£6.18.0	K - £0.6.6
33	KENT No. 4	£5.18.6	K - £0.6.6
33	KENT No. 6	£4.14.6	K - £0.6.6
35	VESEY Outfit 1	£28.15.0	V - £0.12.6
35	VESEY Outfit 2	£32.1.6	V - £0.12.6
35	VESEY Outfit 3	£30.18.6	V - £0.12.6
35	VESEY Outfit 4	£35.16.6	V - £0.12.6
36	STREETLEY	£3.3.6	N - £0.3.6

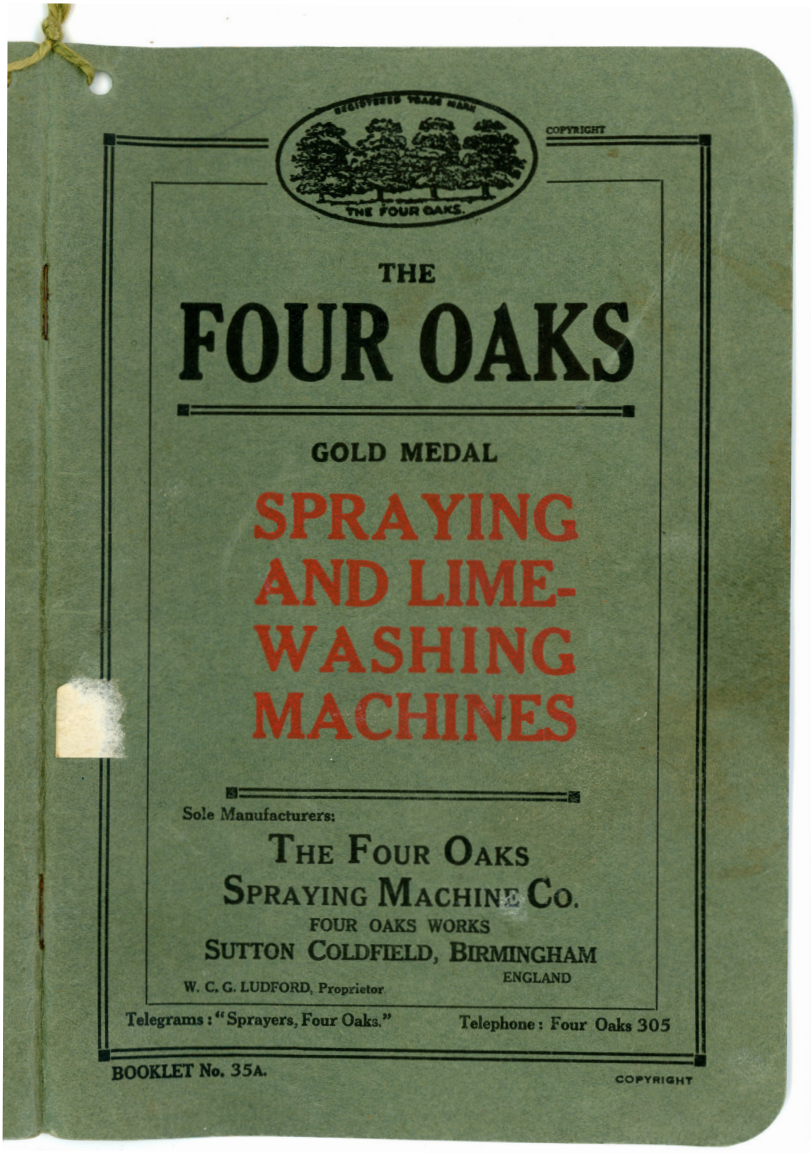
Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Models and Prices from the Catalogue*

Page No.	*Model*	*Price*	*Spare Part Outfit*
36	*STREETLEY DE LUXE*	*£3.8.6*	*O - £0.3.6*
36	*STREETLEY DE LUXE No. 2*	*£2.5.6*	*O - £0.3.6*
37	*UNCHOKEABLE NOZZLE*	*£0.7.6*	
37	*AGITATOR 44*	*£0.7.0*	
37	*6ft Hose with union*	*£0.13.6*	
37	*10ft Hose with union*	*£0.19.0*	
37	*6ft Hose No Union*	*£3.12.0*	
37	*Armoured Extra per foot*	*3½ p*	
37	*Without union less per length*	*£0.4.6*	
37	*MARVELLOUS NOZZLE*	*£0.3.6*	
37	*Cattle Nozzle No. 45*	*£0.14.6*	
37	*Strainer Rod*	*£0.8.9*	
38	*Straight Jet No. 7*	*£0.4.6*	
38	*Moveable Angle Joint No. 43*	*£0.7.6*	
38	*Tube Angle Bend 12" No. 41*	*£0.3.0*	
38	*Lengthening pieces 12" No. 42*	*£0.3.0*	
38	*Bend No. 40*	*£0.3.0*	
38	*Bamboo Tube 4ft*	*£0.17.6*	
38	*Bamboo Tube 6ft 6 Inches*	*£1.9.0*	
38	*Bamboo Tube 8ft*	*£1.12.0*	
38	*Bamboo Tube 10ft 6 inches*	*£1.14.6*	
38	*Bamboo Tube 15ft (two pieces)*	*£2.3.6*	
39	*Leather Belt and Brass Socket*	*£0.14.6*	
39	*Lime washing nozzle No. 69*	*£0.6.6*	
39	*Single Swivel Nozzle*	*£0.7.0*	
39	*Double Swivel Nozzle*	*£0.10.6*	
39	*Nozzle 51*	*£0.5.6*	
39	*SENECA nozzle*	*£0.5.6*	
40	*Fire Pump No. 1*	*£6.6.6*	
40	*Fire Pump No. 2*	*£3.18.0*	

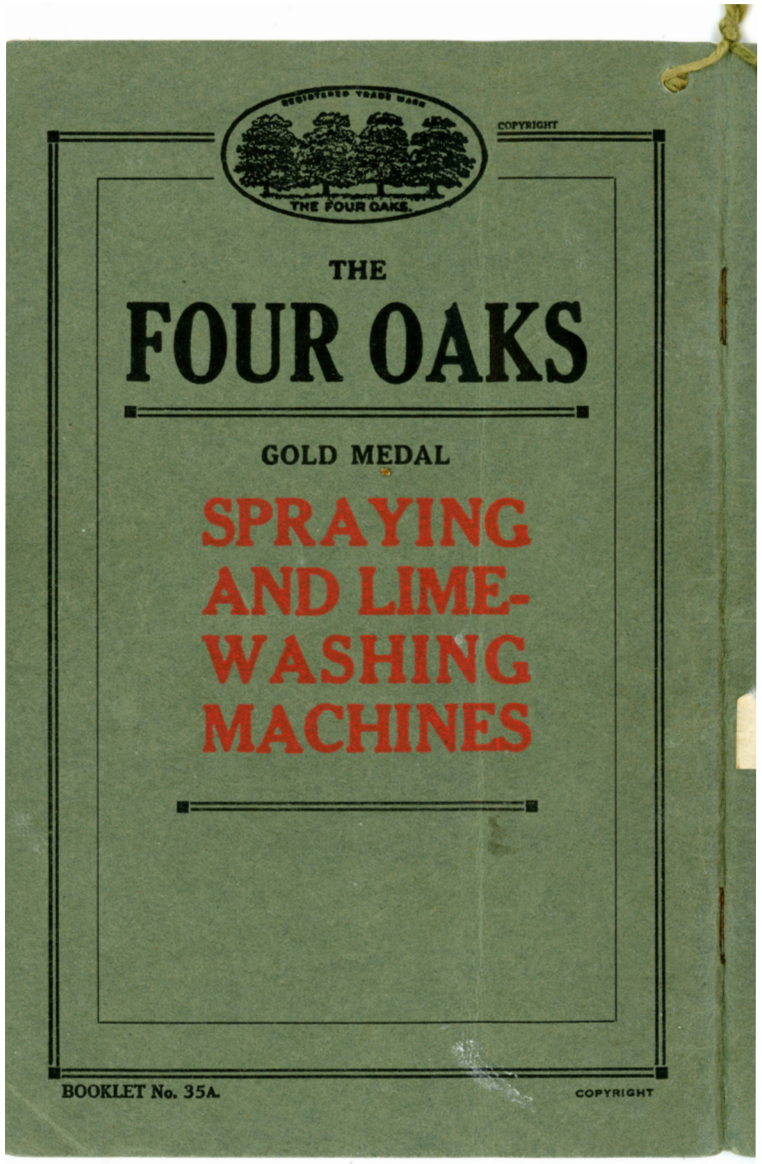
Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*



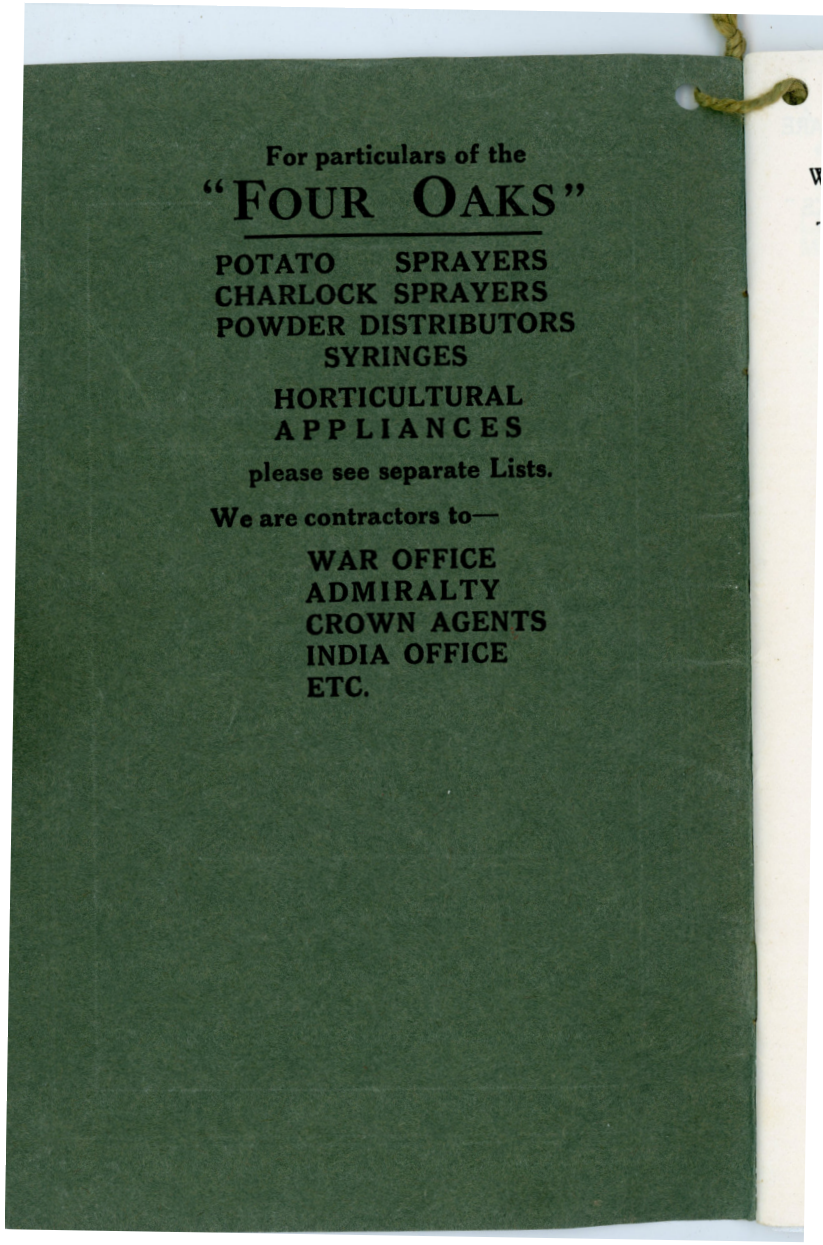
Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*



Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*



For particulars of the

"FOUR OAKS"

POTATO SPRAYERS
CHARLOCK SPRAYERS
POWDER DISTRIBUTORS
SYRINGES

HORTICULTURAL
APPLIANCES

please see separate Lists.

We are contractors to—

WAR OFFICE
ADMIRALTY
CROWN AGENTS
INDIA OFFICE
ETC.

(2001) 31/1/1942 Before

WITHOUT THIS REGISTERED TRADE MARK

REGISTERED TRADE MARK
THE FOUR OAKS.

MACHINES ARE **NOT** GENUINE " FOUR OAKS " **MAKE.**

Introduction.

IT is with very great satisfaction that we are enabled once again to report the continued and unparalleled success of the " Four Oaks " Sprayers. Everywhere the " Four Oaks " have secured the PREMIER position, until now they have achieved the proud distinction of obtaining

OVER 60 GOLD AND SILVER MEDALS,

which is a world's record for Sprayers. One award was Gold Medal, International Rubber Exhibition, London, 1914.

By making a special study of Spraying and Limewashing, and by consulting practical horticulturists and fruit growers, we have been enabled, as manufacturers, to attain the best results.

Our aim has been, and will continue to be, to make the " FOUR OAKS " SPRAYERS

THE BEST IN THE WORLD,

AND BRITISH MADE THROUGHOUT,

noted for their reliability, good workmanship and excellent finish. Every machine in this list is always in stock, and despatch is guaranteed per return.

We claim to be by far the largest actual manufacturers of Sprayers in Great Britain, and our machines have a reputation all over the world.

WARNING TO INTENDING BUYERS.

Owing to the great success of the "Four Oaks" machines, and the satisfaction they always give, several manufacturers, finding they are unable to sell their own machines, have made up machines to LOOK LIKE the "Four Oaks."

This speaks for itself. Do not buy a limewashing or spraying machine without seeing the "Four Oaks" trade mark on it. Thousands of testimonials received from delighted users.

WITHOUT THIS REGISTERED TRADE MARK

MACHINES ARE **NOT** GENUINE "FOUR OAKS" **MAKE.**

A Few of the Uses and Advantages of the "FOUR OAKS" SPRAYERS.

USES. These Machines are invaluable to Farmers, Stockbreeders, Horse-owners, Cowkeepers, Dairymen and others, for Limewashing Farm Buildings, Stables, Cowhouses, Shippons, Dairies, etc. They are also indispensable for the Spraying of Sheep and Cattle for fly. Also to Dog Fanciers, for limewashing and disinfecting kennels; Poultry Keepers, for fowl houses; Pig Breeders, for pigsties, etc.

They are used by Educational Authorities for disinfecting Schoolrooms, and by Sanitary Authorities for disinfecting rooms after infectious diseases. They are also very useful for Limewashing Bakehouses, Slaughterhouses, Factories, Breweries, Collieries, Laundries, Cattle Trucks, Mills, Docks, etc. etc. Invaluable for damping dust of all descriptions.

FRUIT GROWERS
Gardeners and Horticulturists cannot do without them.

Also largely used for washing down motor cars, traps, etc.; walls before limewashing, walls with glazed bricks, windows in hotels. Frequently used as Fire Extinguishers.

Advantages. With a "Four Oaks" Machine, 500 square feet can be beautifully limewashed in 10 minutes without splashing, or inconvenience, and no scaffolding being necessary reduces the risk of accidents.

One coat applied with a machine on rough, uneven walls or surfaces, is equal to two coats applied with a brush.

Also, the material, being applied as a spray by a powerful pump, is driven into cracks and crevices where disease and insect pests breed, and where no brush could ever reach.

With a machine a man can do as much in half-an-hour as in a day with a brush.

Another great saving is made owing to scaffolding being unnecessary; it being possible with the aid of an extension lance to spray to a height of 25 feet without any scaffolding.

Ceilings very easily limewashed.

90% of labour bill saved.

All cost of scaffolding saved.

Work done **far better** than it could ever be done with brush, in one tenth the time!

Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

A FEW ADVANTAGES OF THE

"FOUR OAKS"

GOLD MEDAL

LIMEWASHING AND SPRAYING MACHINES on pages 4 to 27.

(1) They all have most powerful brass pumps, absolutely necessary in limewashing machines.

(2) The pumps cannot clog.

(3) The valves are brass ball valves.

(4) The "Four Oaks" Nozzles do not clog, and do not splash, and put on limewash beautifully; any degree of opaqueness desired can be obtained.

(5) Absolutely even pressure when working.

(6) They are absolutely simple from beginning to end and can all be taken to pieces by the most inexperienced person.

(7) All machines are sent out complete with two nozzles suitable for limewashing, spraying, disinfecting, and forming also straight jet for washing.

(8) Every machine on pages 4 to 27 may be used for either limewashing, spraying fruit trees, roses, etc., disinfecting, or washing traps, etc.

(9) The results of competitions; all competitors beaten **again** and **again. Over 60 Gold and Silver Medals awarded.**

(10) **The "Four Oaks" Machines are of British manufacture entirely, all being made at Four Oaks by British labour.**

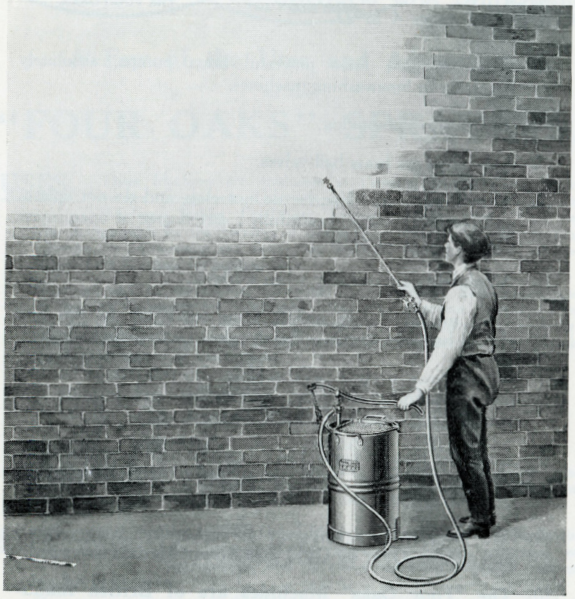
(11) Full instructions sent with every machine.

When buying a limewashing or spraying machine insist on seeing the "Four Oaks" trade mark (see above).

We can do anything for you except to protect you from worthless imitations, that you must do for yourself.

The "FOUR OAKS"

way of quick and easy Limewashing, Colour-washing, Distempering and Disinfecting.



So Easy ! So Quick ! So Little Mess !
Such a Beautiful Even Coat !

Illustration shows **"Wizard"** Pattern Limewashing a wall.

Price of "Wizard" Pattern, as illustrated (capacity 6 gallons). and complete with 10 ft. rubber hose and two nozzles.

£5 14 6

For further particulars of **"Wizard"** Pattern, see page 11.

All the machines on pages 5 to 27 can be used for spraying, lime-washing or disinfecting, as above illustration.

Spare parts outfit for this machine, Box B, **3/6** extra.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Farmer" Pattern

THE CHEAPEST RELIABLE LIMEWASHER ON THE MARKET

Capacity about 4 gallons

Powerful All-Brass Pump, suitable for spraying any liquids.

PRICE,

complete with two Nozzles, Strainer, and Bucket, 6 feet Rubber Hose, Brass Spraying Arm with Stopcock, Limewashing and Spraying Nozzles

£3 12 0

Spare parts outfit for this machine, Box A, 3/- extra.
For particulars of patent unchokable nozzle, patent agitator, long lances for high walls or tall trees, bends and other useful accessories, see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

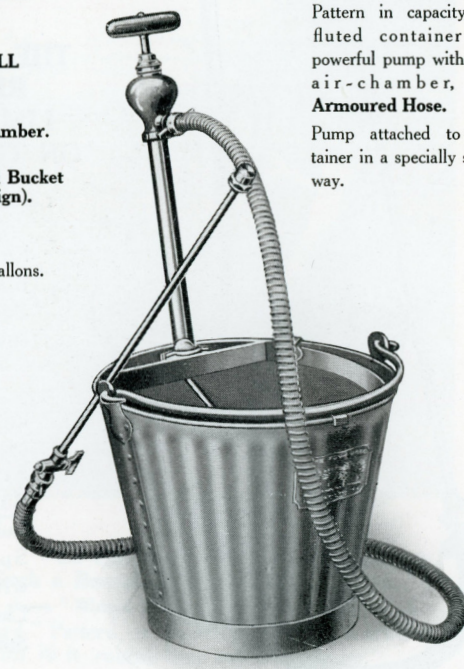
The "FOUR OAKS" "Farmer de Luxe" Pattern (Registered design)

Popular with those who like a LIGHT, SMALL MACHINE.

Efficient Airchamber.

Very Strong Fluted Bucket (Registered design).

Capacity about 4 gallons.



Similar to the "Farmer" Pattern in capacity, but fluted container and powerful pump with brass air-chamber, and **Armoured Hose.**

Pump attached to container in a specially strong way.

PRICE.

Complete with **six feet Armoured** Hose, two Nozzles, **Bucket and Strainer.**

£3 18 6

Spare parts outfit for this machine, Box A, **3/-** extra.

For particulars of patent unchokable nozzle, patent agitator, long lances for high walls or tall trees, bends, and other useful accessories, see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Dairyman" Pattern

A Favourite Pattern.

Very strong Container, cannot be easily damaged.
This machine is most popular, and one of the most useful machines we make. A pattern we can strongly recommend.

Capacity, 6 gallons.

Complete with six feet best quality Hose, Brass Strainer, Brass Spraying Arm, Galvanized Pail and 2 Nozzles for Spraying and Limewashing.

£4 12 0

Spare parts outfit for this machine, Box A, 3/- extra.

For patent agitator, patent unchokable nozzle, long lances for high walls or tall trees, bends and other useful accessories, see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

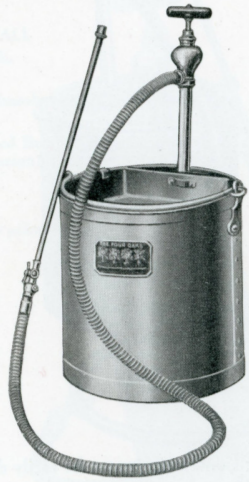
"FOUR OAKS" GOLD MEDAL
LIMEWASHING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Dairyman de Luxe" Pattern

Gives a very even pressure when working.

Powerful Brass pump with brass airchamber, and brass ball suction valves.



Armoured Hose.

Pump attached to container in a specially strong way.

Capacity **6** Gallons.

PRICE.

Complete with six feet of Armoured Hose, Brass Spraying Arm with Stopcock, Strainer, Galvanized Container, and Nozzles for Spraying and Limewashing.

£4 18 6

Spare parts outfit for this machine, Box A, 3/- extra.

For patent agitator, patent unchokable nozzle, long lances for high walls, bends and other useful accessories, see pages 37, 38 and 39

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Warwick" Pattern

This machine is specially suitable for limewashing cowhouses, spraying low-growing trees, etc.

It has a Strong Brass Pump, and is fitted with six feet of Best India Rubber Tube, Strainer, Brass Lance, "Four Oaks" Spraying Nozzle, and Special Limewashing Nozzle.

Capacity Six Gallons

Galvanized Pail. Strainer, etc.

Price complete as illustrated, and with two Nozzles.

£5 3 6

Spare parts outfit for this machine, Box A, 3/- extra.

For special accessories, long lances, patent unchokable nozzle, patent agitator, bends, etc., see pages 37, 38 and 39.

Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS

The "FOUR OAKS" "Wisbech" Pattern

Has Undentable Pump, which makes it very durable. Designed for use where two persons are available to work. Excellent for either limewashing walls or fruit trees.

An exceptionally strong machine we can strongly recommend.

Six Gallon Galvanized Pail, Strainer, complete with 6 ft. best quality Hose, Brass Spraying Arm with Stopcock, as illustrated, and two Nozzles.

£5 9 6

Spare parts outfit for this machine, Box A, 3/- extra.

See pages 37, 38 and 39 for special accessories, long lances, patent unchokable nozzle, patent agitator, bends, etc.

Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING
AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "Wizard de Luxe" Pattern

(Registered Design)

Registered Design.

Lever action to pump.
Easy working.
Swinging fulcrum, allowing operator to stand in any desired position to work

PRICE.—Complete with 10 feet Rubber Hose, Brass Spraying Arm with Stopcock, Strainer, Limewashing Nozzle and Spraying Nozzle, which also forms straight jet.

£6 1 0

Capacity, 6 gallons.
Very Strong Fluted Container (Registered).

Compact. Handy Shape for Carrying.

Spare parts outfit for this machine, Box B, **3/6** extra.
See pages 37, 38 and 39 for particulars of patent agitator, patent unchokable nozzle, long lances, bends, and other useful accessories.

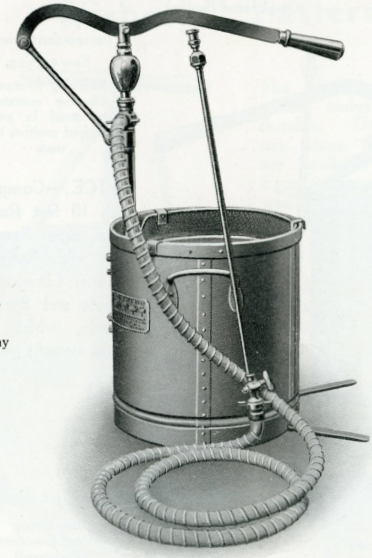
Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Triumph" Pattern (Registered)



Armoured Hose.

Swinging fulcrum, enabling operator to work with handle in any desired position.

Double acting lever pump with air chamber.

One of the great features of this machine is its easy working.

Capacity 6 gallons.

PRICE—Complete with 10ft. of Armoured Hose, Brass Spraying Arm, Strainer, one nozzle for spraying (which also forms straight jet) and one for limewashing **£6 1 0**

Spare parts outfit for this machine, Box B, **3/6** extra.

For particulars of patent agitator, patent unchokable nozzle, long lances and other useful accessories, see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL LIMEWASHING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "ROYAL" PATTERN

Container being Oak, it can also be used for Spraying with Chemical Washes of every description.

Pump made with Brass Ball Valves.

Fitted with "Four Oaks" Spraying Nozzle and Special Limewashing Nozzle.
In 6-gallon Oak Container, with strong bands.
Price complete as illustrated, with 6ft. best quality Hose, Brass Spraying Arm with Stopcock, Limewashing and Spraying Nozzles.

A New Line.
To meet the demand for a cheaper Oak Bucket Machine we can now offer **The Royal Junior** four gallon Oak Bucket.

£5 3 6

The "ROYAL" Pattern.

£6 6 6

Spare parts outfit for this machine, Box A, 3/- extra.
For patent unchokable nozzle, patent agitator, long lances for high walls or trees, bends, and other useful accessories, see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "VICTOR" PATTERN

6-gallon Container.

The Cheapest Machine we make for wheeling about.

"Victor" Junior
6-gallon.
A cheap, light form of above. Specially suitable for ladies' use.

£8 1 0

6-gallon size, complete as illustrated, with 10ft. Hose, Spraying and Limewashing Nozzles, etc.

£8 12 6

We can also supply a similar machine with 10-gallon container.

£9 4 0 (Please order as "VICTOR" No. 2.)

Spare parts outfit for any of the "Victor" patterns, Box B **3/6** extra.

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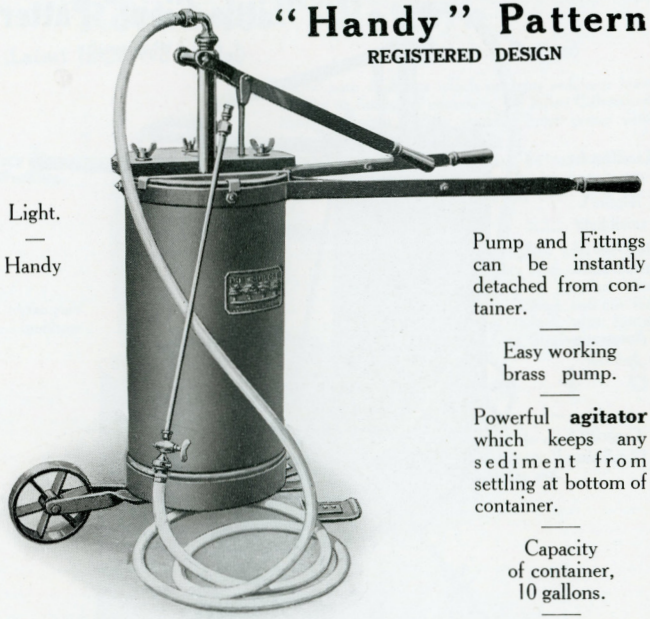
Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING
AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS"
"Handy" Pattern
REGISTERED DESIGN



Light.
—
Handy

Pump and Fittings can be instantly detached from container.

Easy working brass pump.

Powerful **agitator** which keeps any sediment from settling at bottom of container.

Capacity of container, 10 gallons.

Easily moved about.

Price, complete with 10 feet best quality hose, brass strainer, special limewashing nozzle, and a straight jet nozzle, which also forms a fine spray.

£12 13 0

Spare parts outfit for this machine, Box C, **5/6** extra.
For special accessories, long lances, and patent unchokable nozzle, see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING
AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS"
"Little Giant" Pattern
(Registered).

Excellent for those who require a small light machine on two wheels.

Automatic Agitator.

Capacity 12 gallons.

Very easy working.

PRICE,

Complete with 12 ft. best quality rubber hose, brass spraying arm with stopcock, strainer, and spraying and limewashing nozzles.

£13 4 6

Spare parts outfit for this machine, Box C, 5/6 extra.

For particulars of patent unchokable nozzle, long lances, bends and other useful accessories, see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Rochester" Pattern

(Latest Improved Model) **(Registered Design)**

Fitted with **Agitator** which prevents sediment from settling on bottom of container. 10 gallon Galvanized Steel Container. Easy working brass pump with brass ball valves.

The pump and all fittings can be removed in a few seconds by simply unscrewing the three wing nuts on top.

Very Easy Working.

Price, complete with 12 feet best quality hose, brass tube, stopcock, two nozzles, one for Limewashing and one for Spraying, which also forms Straight Jet, Strainer, etc.

£11 4 6

A suitable machine for placing on Trucks in Collieries, etc.

Spare parts outfit for this machine, Box C, **5/6** extra.
For special accessories, long lances, patent unchokable nozzle, etc.
see pages 37, 38 and 39.

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"FOUR OAKS" GOLD MEDAL LIMEWASHING, DISINFECTING AND FRUIT TREE SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The special feature of this machine is that the Pump can be instantly removed from container.

The Container being oak, this machine can be used for Fruit Tree Spraying with any kind of washes.

A Machine we can thoroughly recommend.

The "Conqueror" Pattern (Registered)

Superior Machine, 10-gallon Oak Container, with powerful Lever Pump and Agitator.

Complete with 12ft. of I.R. Tubing, Brass Tube Spraying Arm, Strainer, one Nozzle for Limewashing and one for Fruit Tree Spraying, which also forms straight jet.

£17 5 0

"SOMERSET" PATTERN

As above, but without carriage—side handles only for carrying.

£14 7 6

Spare parts outfits for "Somerset" or "Conqueror," Box C, 5/6 extra.
For particulars of long lances, patent unchokable nozzle, and other useful accessories see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

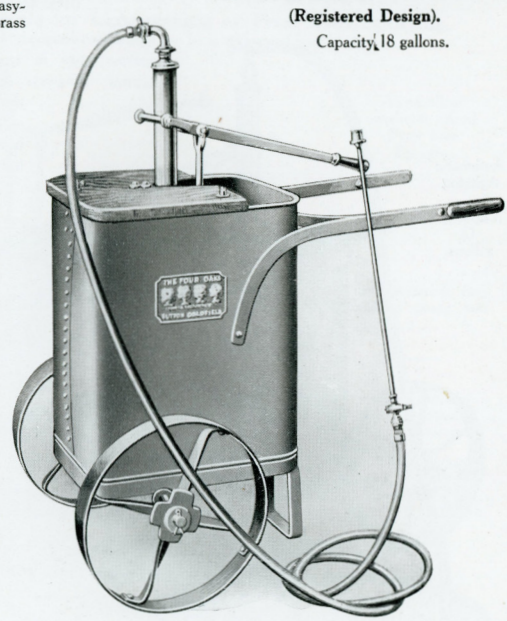
REGISTERED TRADE MARK
THE FOUR OAKS.

A powerful, reliable machine at a popular price.

The "FOUR OAKS" "Stafford" Pattern
(Registered Design).
Capacity 18 gallons.

Very powerful, easy-working Pump, brass ball valves.

Most efficient agitator.



"Stafford Junior."

Capacity 12 Gallons, Fluted Container,
£15 10 6

Spare Parts Outfit for **"Stafford Junior,"** Box C, 5/6

Pump can be removed from container in a few seconds, and container and carriage used as a water barrow.
Price, complete as illustrated, with 12ft. best quality hose, brass spraying arm, spraying and limewashing nozzles, strainer, etc. **£17 5 0**

Spare parts outfit for this machine, Box E, 6/6 extra.
For special accessories, long lances, patent unchokable nozzles, bends, etc., see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND FRUIT TREE SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Challenger" Pattern

(Registered)

Specially designed for use between narrow rows in fruit plantations or narrow gangways in works. Easy working pump, which with fittings, can be instantly removed from container.

Automatic Agitator.

Capacity 12 gallons.

PRICE.

Complete with 15 ft. best Armoured Hose, Brass Spraying Arm, Strainer, and two nozzles one for spraying (which also forms straight jet for washing), and one for limewashing

Spare parts outfit for this machine, Box E, 6/6 extra.
For particulars of patent unchokable nozzle, long lances, bends and other useful accessories, see pages 37, 38 and 39.

£17 16 6

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Four Oaks Spraying Machine Co

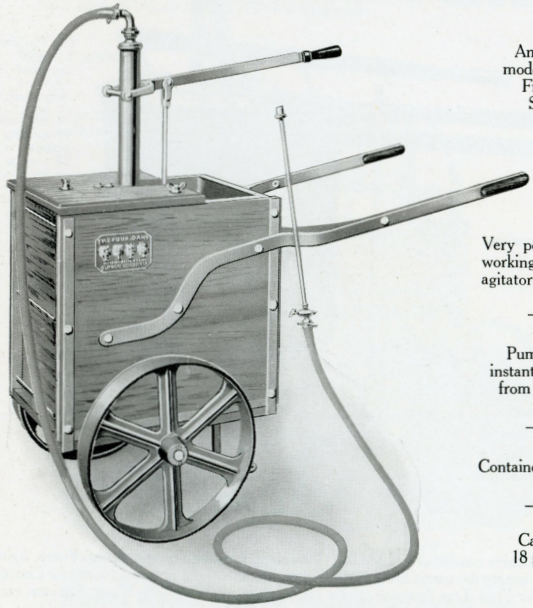
Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Shenstone" Pattern

Very suitable for Limewashing or Fruit Tree Spraying.
Having a wood container it can be used for any kind of washes.



An excellent moderate priced Fruit Tree Sprayer.

Very powerful, easy working pump and agitator.

Pump can be instantly detached from container.

Container of Wood.

Capacity 18 gallons.

Price complete as illustrated, with strainer, 12 feet best quality hose, spraying and limewashing nozzles, brass lance, etc.

£22 17 6

Spare parts outfit for this machine, Box E, **6/6** extra.
For special accessories, patent unchokable nozzle, long lances, bends, etc., see pages 37, 38 and 39.

21

"FOUR OAKS" GOLD MEDAL LIMEWASHING, DISINFECTING AND FRUIT TREE SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS

The "FOUR OAKS" Gold Medal "Bridgwater" Pattern

The special feature of this pump is that the pump bucket works entirely outside the liquid

This Machine secured "Tropical Life" Gold Medal at the International Rubber Exhibition, London, in competition with other makes.

This Machine can be supplied with two lengths of hose and two sets of spraying fittings at 43/– extra, so that two men can be spraying at same time.

Superior machine made in very best style throughout.

We can thoroughly recommend this Machine to Fruit Growers who require a really good Machine.

This high-class machine consists of an 18-gallon Galvanized Tank with powerful Brass Pump, Agitator, 15ft. of 3-ply best quality Armoured Hose, Brass Tube with tap, special Spraying Nozzle for Limewash, also Nozzle for Fruit Tree Spraying, and a Plain Jet for Washing with Water, Strainer, etc.

£20 2 6

Spare parts outfit for "Bridgwater" machine, Box D, 6/6 extra.

"BRIDGWATER-DE-LUXE" PATTERN

We can now offer the above machine in a 30-gallon Container, and with a much more powerful pump **£29 15 6**

For useful extra accessories, lances, nozzles, etc., see pages 37, 38 and 39.

Spare parts outfit for "Bridgwater-de-Luxe," Box F, 7/– extra.

22

Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL LIMEWASHING, DISINFECTING AND FRUIT TREE SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

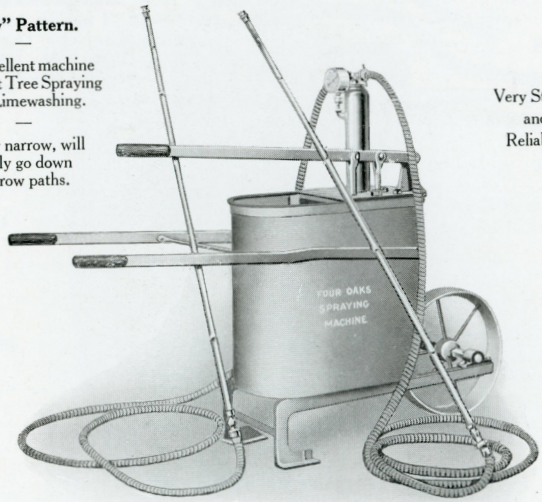
The "ELY" Narrow Gauge Spraying & Limewashing Machine.

A very substantial Narrow Gauge Machine, specially designed to meet the requirements of those who have difficulty in getting a wide machine into their plantations. Having only one wheel, and **extreme width being only 12 inches,** it will go into the most closely-grown plantations. Most powerful Brass Pump and highly efficient Agitator. Galvanized Container.

"Ely" Pattern.

An excellent machine for Fruit Tree Spraying and Limewashing.

Being narrow, will easily go down narrow paths.



Very Strong and Reliable.

PRICES.

18-gallon Machine.—With one 15ft. length of Armoured Hose, short Brass Rod, with Stopcock, Spraying Nozzle, etc. ... **£24 0 6**

Ditto ditto with two 15ft. lengths of Hose and Fittings **£26 3 6**

Extra for Pressure Gauge, if required **£1 14 6**

Spare parts outfit for this machine, Box D, **6/6** extra.

For special accessories, nozzles, bends, lances, etc., see pages 37, 38 and 39.

Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
FRUIT TREE SPRAYING AND LIMEWASHING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS"
"Battle" Pattern

Extreme width overall—
18-gallon Machine : 23 inches.
25-gallon machine : 26 inches.

The best Fruit Tree Spraying and Limewashing Machine on the Market.

Powerful pump. Elliptical oak container will take ANY washes. Large wheels. Easily moved about. Powerful agitator.

One of England's leading fruit growers writes :
"I consider your 'Battle' Machine the only PRACTICAL Fruit Tree Sprayer I have yet seen."

PRICES.

18-gallon Elliptical Oak Container, 24in. Wrought-iron Wheels, 2¼in. Brass Pump, one 15ft. length of best quality Armoured Hose, Short Brass Rod, Spraying Nozzle, etc. **£28 12 6**
25-gallon Machine ditto, with 2¾in. Brass Pump and 30in. Wheels ... **£34 10 0**

EXTRAS—
If two 15ft. lengths of Armoured Hose and Fittings **£2 3 0**
If fitted with Pressure Gauge **£1 14 6**

Spare parts outfit for 18 gallon machine, Box D, **6/6** extra.
„ „ 25 „ „ Box F, **7/-** „

For special accessories, long lances, nozzles, bends, etc., see pages 37, 38 and 39.

24

"FOUR OAKS" GOLD MEDAL
LIMEWASHING AND
SPRAYING PUMP.

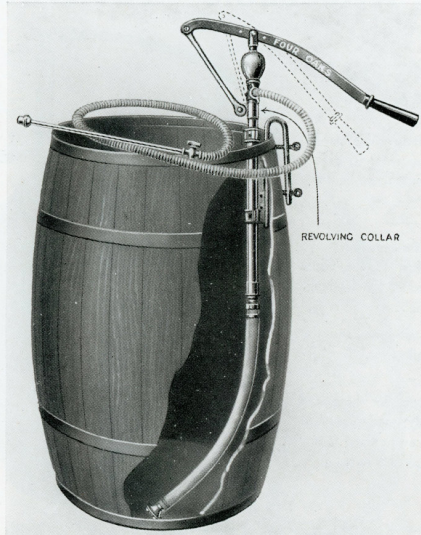
REGISTERED TRADE MARK
THE FOUR OAKS.

The "Southern Cross" Pattern

All folds up and can be packed into a very small space.

All Brass Pump and Brass Valves.

Can be used in any climate for any purpose.



A unique feature is the swinging or movable Fulcrum.

The operator can thus stand in any position to work, either at back or side of pump, whichever is most comfortable.

Price, complete as illustrated, with 2ft. Suction Hose, 6ft. best quality Armoured Delivery Hose and two Nozzles, one for fine liquids and one for thick liquids or limewash.

£4 12 0

Spare parts outfit for this pump, Box G, 3/6 extra.
For special accessories, long lances, unchokable nozzle, etc.
see pages 37. 38 and 39,

25

"FOUR OAKS" GOLD MEDAL LIMEWASHING AND FRUIT TREE SPRAYING PUMP.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Attachable" Pattern

A LONG-FELT WANT.

A powerful Pump which can be fixed to any container in a **few seconds** by simply screwing three wing nuts.

Suitable for Spraying FRUIT TREES, POTATOES, etc., or any kind of limewashing.

The pump is all brass, and the valves, brass ball valves.

Specially designed for those who require a **really good powerful pump** which can be fixed to any container they already have.

PRICES.

Attachable No. 1—Exclusive of Container, but complete with Pump and all fittings, Strainer, fifteen feet best quality hose, short brass lance as illustrated, and Spraying and Limewashing Nozzles.

£8 1 0

Spare parts outfit for Attachable No. 1 is Box J1, 5/6 extra.

Attachable No. 2—Similar in design to above, but very much more powerful and twice capacity.

£10 7 0

Spare parts outfit for Attachable No. 2 is Box J2, 5/6 extra.

For special accessories, long lances, nozzles, bends, etc., see pages 37, 38 and 39.

Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL SPRAYING, LIMEWASHING AND DISINFECTING PUMP

REGISTERED TRADE MARK
THE FOUR OAKS.

"YENTON" Pattern

This is a high class Pump with brass air chamber and Malleable Iron Stand.

—

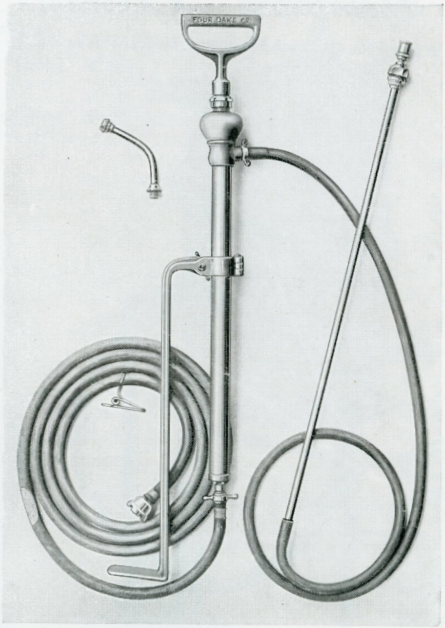
Will draw liquid from any bucket or container or from pond or stream.

—

Suitable for all classes of Spraying.

—

Well made, strong and reliable.



A most useful Pump, which can be used either for Limewashing Creosoting, Fine Spraying, Disinfecting or any class of Spraying Work.

—

Continuous Spray.

—

Strainer to fit any bucket can be supplied for use with this Pump at **3/-** extra.

PRICE £1 17 6 complete as illustrated.

Including ten feet Suction Hose, with Strainer on end, four feet of Delivery Hose, two foot Brass Rod and "Four Oaks" Spraying and Limewashing Nozzle, No. 69 (see page 39).
Can be supplied with additional Nozzle for Fine Spraying (Marvellous No. 68), **5/6** extra.
Unchokable Nozzle No. 71 can be supplied in lieu of No. 69 at **2/6** extra.
Spare parts outfit for above Pump, Box A, **3/-** extra.

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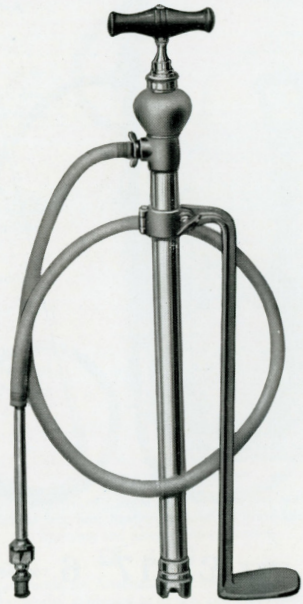
"FOUR OAKS"
LIMEWASHING AND SPRAYING PUMP.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS"
"Colonial" Pattern

A powerful All-Brass Pump with Malleable Iron Stand.



This is a well made reliable Spraying Pump for use in Customer's own Bucket.

Excellent for limewashing Fowl Houses, Kennels, and any kind of Spraying.

Price includes one Nozzle only ("Four Oaks" No. 69) (see Page 39) as illustrated.

If desired, Seneca Nozzle or Straight Jet for Car Washing supplied at same price.

PRICE
32/-
as illustrated.

We also make a lighter, cheaper form, the **"Colonial Junior"** at
27/-

Either of above can be fitted with two foot Brass Rod with stop-tap at **5/9** extra.

This Pump gives Continuous Spray and is easy to work.

Can also be supplied with additional Nozzle for Fine Spraying (Marvellous No. 68), **5/6** extra.
Unchokable Nozzle, supplied in lieu of usual Nozzle, **2/6** extra.
Spare parts outfit for these Pumps, Box A, **3/-** extra.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS"

PNEUMATIC SPRAYER

"Weeford" Pattern

(Patent).

An Entirely New Type.

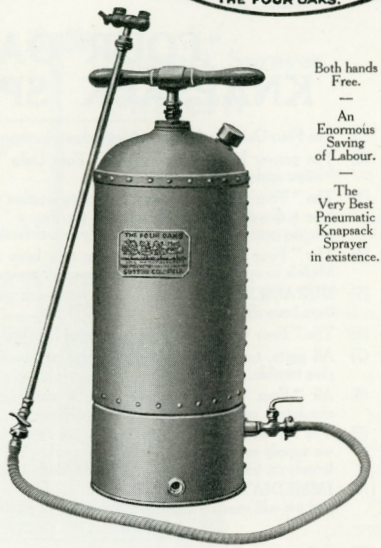
Only requires charging with Air once per day.

No fatiguing hard work.

The Pneumatic Sprayer of the future.

All the advantages of the "KENT" Pattern, with many additions.

REGISTERED TRADE MARK
THE FOUR OAKS.



Both hands Free.

An Enormous Saving of Labour.

The Very Best Pneumatic Knapsack Sprayer in existence.

Containers are made of "FOREX" Brass Alloy, so that they can be used for all usual spraying Fluids, including Lime, Sulphur, Liver of Sulphur, Copper Sulphate, Caustic and Acid Washes, etc.

Capacity, **5** gallons.
Working Capacity, **3** gallons.
Weight, **28** lbs.

Price,
complete as illustrated,

£9 1 6

Spare Parts Outfit, Box R, 9/-

Immensely Popular with Fruit Growers.

(Patent).
Showing the easy way the machine is charged with liquid.

29

FEW REASONS WHY
OU SHOULD INSIST ON
AVING

"FOUR OAKS" KNAPSACK SPRAYERS.

(1) The Four Oaks Co. have a vast experience in the manufacture of Knapsack Sprayers.

(2) The grower has a wider range of " Four Oaks " Patterns to select from than any other make.

(3) The " Four Oaks " Machines have a reputation to uphold. We **cannot afford** to have a dissatisfied customer, and if you buy a " Four Oaks " Machine **you know** you are getting one which will give you satisfaction.

(4) The " Four Oaks " Knapsacks have now been awarded over 60 Gold and Silver Medals in open competition, beating other makes again and again.

(5) **DURABILITY.** A " Four Oaks " Knapsack will last you years after other makes have been discarded.

(6) The " Four Oaks " Machines are noted for their good workmanship.

(7) All parts, tubing, etc., are of the highest possible quality and will not perish or give trouble.

(8) All " Four Oaks " Machines give a really good working pressure, which is absolutely necessary for effective spraying.

(9) The " Four Oaks " Patent Nozzles are recognised as the best in the world, and we supply nozzles for every class of work. The success of your spraying depends largely on whether you have the right kind of nozzle.

(10) **IMMEDIATE DELIVERIES.** All machines are kept in stock in large quantities, and we will execute any order the day it is received if cash sent with order.

BEWARE OF IMITATIONS.

The " Four Oaks " Sprayers have beaten all other makes in **open** competition **again** and **again.**

A **few** awards are as follows:

First Prize for Knapsack Sprayers, BATH AND WEST, ROCHESTER, 1910.
Silver Medal for Knapsack Sprayers, SUSSEX AGRICULTURAL SHOW, 1910.
Silver Cup for Sprayers, ROYAL HORTICULTURAL INTERNATIONAL EXHIBITION, 1912.
Gold & Silver Medal, HEXHAM GREAT FRUIT CONGRESS, 1910.
Over **60** others too numerous to mention, but we would specially refer to the

ROYAL HORTICULTURAL SOCIETY.

TRIALS of Spraying Machines and Syringes.

Held at WISLEY GROUNDS, April 23rd, 1913.

Results:

SPRAYING MACHINES.
"Four Oaks" HIGHEST AWARD.

SPRAYING NOZZLES.
"Four Oaks" HIGHEST AWARD.

GARDEN SYRINGES.
"Four Oaks" HIGHEST AWARD.

KNAPSACK SPRAYERS.
"Four Oaks" SPECIAL AWARD.

This is a RECORD for any Manufacturer.

30

Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" GOLD MEDAL
KNAPSACKS ARE
THE MACHINES WITH
A REPUTATION.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "External" Knapsack Sprayer No. Pattern 101

Capacity, 3¼ gallons.

A web band has been fitted to back rim to ensure comfortable fitting to the back.

All working parts **outside** the container.

Pump, air chamber and valves being **outside** are always easily accessible.

Brass Pump.

Brass ball valves.

Brass air chamber.

This is the Machine for Hard Wear.

No. Rubber Valves to perish.

"External" Pattern No. 101. Complete as illustrated, with one Double-swivel Nozzle, Copper Container and suitable for any washes except Liver of Sulphur and Lime and Sulphur Washes ... ... **Price £5 3 6**

"External" Pattern No. 102. Similar to above in construction, but special machine, made to withstand action of Liver of Sulphur and Lime-Sulphur.
Price £5 12 6

Spare parts outfit for either of these machines, Box H, **6/6** extra.
For useful extra accessories, lances, nozzles, etc., see pages 37, 38 and 39.

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"FOUR OAKS"

PATENT KNAPSACK SPRAYER
With Over Shoulder Action.

REGISTERED TRADE MARK
THE FOUR OAKS

New Combination Pattern.

THE EASIEST WORKING KNAPSACK IN EXISTENCE

SPECIAL FEATURES.

(1)—**Very Powerful Agitators,** which keep the liquids thoroughly mixed from top to bottom all the time. **No other Knapsack Sprayer** on the market that we have ever seen possesses **an efficient Agitator.**
(2)—**Removable Powerful Brass Pump.** The Pump and Air Chamber are all in one piece, and, by the simple unscrewing of two thumbscrews, taking a few seconds only, lift entirely out of the container for cleaning purposes, etc.
(3)—**Hinged Lid** on No. **400.** A new and very important feature, enabling the Container to be thoroughly cleaned after use. **The only** Knapsack which embodies this feature.
(4)—**Right or Left-Hand Pump.** The Pump can be worked by either right or left hand.
(5)—**Remarkable Ease of Working.** The handle comes over the shoulder, and the working action is very very easy and non-tiring. A feature which users will highly appreciate.
(6)—**Double Container** in No. **400,** enabling the use in one machine of all classes of Chemicals.
(7)—**Convertible** into a Ground Sprayer.
(8)—Not only a Sprayer, but a satisfactory Limewasher.
(9)—No Side Pump or outside Air Chamber. Machine therefore narrow.

No 400.—As above, with two Containers as illustration, one Copper for ordinary washes, and one Copper Tinned for use with Liver of Sulphur and Lime-Sulphur.

£8 10 0

No. 401.—With one Copper Container only and without Hinged Lid, for those who do **not** use Liver of Sulphur or Lime-Sulphur **£7 15 6**

Both machines are complete as illustrated with 2 Nozzles.
Spare parts outfit for either of these machines, Box L, **6/6** extra.
For extra accessories, see pages 37, 38 and 39.

Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS"
PNEUMATIC KNAPSACK SPRAYER.

REGISTERED TRADE MARK
THE FOUR OAKS.

"Kent" Pattern

Pneumatic Knapsack Sprayer.
Specially designed for those who prefer the Pneumatic type of Knapsack.

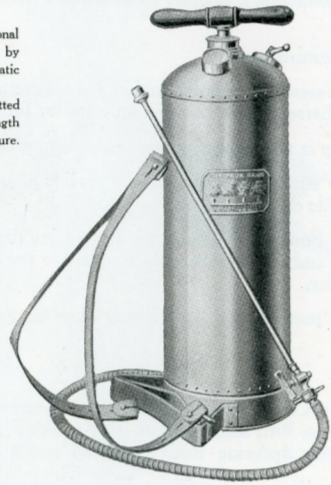
This machine has constructional advantages not possessed by any other make of Pneumatic Knapsack.
Substantially made, with rivetted joints, giving necessary strength for safety under working pressure.

—

This must not be compared with some of the light, cheap, flimsy, machines which are on the market.

—

Both hands free for manipulating Lance.



No loose pump to carry about.

—

All Self-contained.

—

One pumping up will entirely empty the container.

—

Each Machine complete with Pressure Gauge.

—

Container made of **"Forex"** Brass Alloy.

—

Every Machine tested.

	Price
Four Oaks **"Kent"** Pattern, No. **2.** Standard size. Full capacity, 4 gallons ; working capacity, 3 gallons	£6 18 0
Spare parts outfit for above, Box K2, 6/6 extra.	
Four Oaks **"Kent"** Pattern, No. **4.** Medium size. Full capacity 2½ gallons ; working capacity, 2 gallons	£5 18 6
Spare parts outfit for above, Box K4, 6/6 extra.	
Four Oaks **"Kent"** Pattern, No. **6.** Small size. Full capacity, 1¼ gallons ; working capacity, 1 gallon	£4 14 6
Spare parts outfit for above, Box K6, 6/6 extra.	

All the above are suitable for use with all kinds of fruit tree and potato washes, **including** Liver of Sulphur and Lime-Sulphur.
They are fitted with 40in. best quality Armoured Hose, Brass Spraying Lance with Stopcock, **Pressure Gauge,** Swivel Nozzle and Tundish with Strainer. Also fitted with Stopcock on machine where hose connects, and Back Rest.
For useful extra accessories, see pages 37, 38 and 39.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

THE
"FOUR OAKS"
"VESEY"
SPRAYING OUTFIT.

(See illustration on opposite page).

With many Fruit Growers, this type of Sprayer is very popular. Our "Four Oaks" "VESEY" possesses many excellent features, and we can recommend it to every Fruit Grower with the greatest confidence.

The Special Features are :—

(1) As will be seen from the illustration, the apparatus consists of a double barrel pump mounted on a trolley for easy transit.

(2) The pump is very powerful, yet works with great ease.

(3) It is very strongly made, and will give high pressure at a considerable distance from the pump.

(4) Like all "Four Oaks" Sprayers, all working parts are easily accessible and, being extremely simple, are not likely to get out of order.

(5) It is very portable and light, yet at same time is extremely powerful.

Prices.

No. 1 Outfit.—Complete with 6ft. length of Suction Hose with Strainer, one 30ft. length of ½in. best quality Fluted Rubber Hose, Brass Spraying Rod with Tap and two Spraying Nozzles **£28 15 0**

No. 2 Outfit.—If fitted with two 30ft. lengths of Delivery Hose and two Sets of Spraying Fittings ... **£32 1 6**

No. 3 Outfit.—As No. 1 Outfit, but with one 60ft. length of Delivery Hose instead of one 30ft. length **£30 18 6**

No. 4 Outfit.—As No. 3 Outfit, but fitted with two 60ft. lengths of Delivery Hose and two sets of Spraying Fittings **£35 16 6**

Spare Parts Outfit for above, Box V ... **£0 12 6**

For Bamboo Extension Lances and other useful Accessories, see pages 37, 38 and 39.

Four Oaks Spraying Machine Co

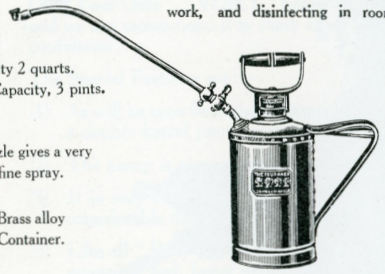
Appendix 10B - *Catalogue 35A - Full Catalogue*

"FOUR OAKS" PNEUMATIC SPRAYER

REGISTERED TRADE MARK
THE FOUR OAKS

The "Streetley" Pattern

For spraying plants, roses, greenhouse work, and disinfecting in rooms, etc.



Capacity 2 quarts.
Working Capacity, 3 pints.

Nozzle gives a very fine spray.

Brass alloy Container.

These machines are self-contained.

No separate Pump.

"Streetley" Pattern.

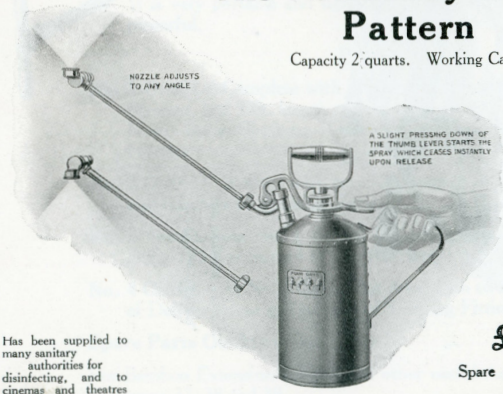
PRICE

£3 3 6

Spare parts outfit, Box N, 3/6 extra.

The "Streetley de Luxe" Pattern

Capacity 2 quarts. Working Capacity 3 pints.



Similar to **"Streetley,"** but works with a press-down Tap.

Very economical with liquid.

Brass Alloy Container.

PRICE

£3 8 6

Spare parts outfit, Box O, 3/6 extra.

For Ladies' use we now make a "Streetley-de-Luxe" of 1¼ pints working capacity. PRICE **£2 5 6** Order as "Streetley-de-Luxe No. 2"

Has been supplied to many sanitary authorities for disinfecting, and to cinemas and theatres in various parts of the country.

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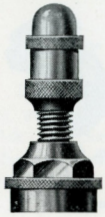
A FEW USEFUL EXTRA ACCESSORIES FOR THE "FOUR OAKS" SPRAYING AND LIMEWASHING MACHINES.

REGISTERED TRADE MARK
THE FOUR OAKS.

"Four Oaks" Unchokable Nozzle

(Patent No. 11,000)



No. 71

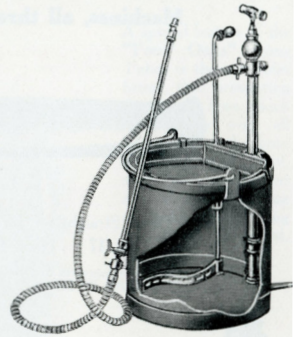
An Unchokable Nozzle. This nozzle automatically clears if at any time it clogs.
We recommend this nozzle for use with thick and gritty lime.
If your lime is ever inclined to choke, this is the nozzle to use.
Price, 7/6 extra, or 2/6 if in lieu of ordinary limewashing nozzle.

"Four Oaks" (Patent) Agitator.

No. 44

For use with bucket types of machines on pages 4 to 14.
A most useful little contrivance for stirring up liquid instantly.
We recommend every user of machines on pages 4 to 14 to purchase one of these.
When ordering, state for which machine it is required.

Price - 7/-



"Four Oaks" Agitator,
No. 44

Extra lengths of Rubber Tubing,

6ft. length, complete with unions	13/6
10ft. length, do ...	19/-
15ft. length, do. ...	28/3

If armoured, 3½d. per foot extra

If without unions, 4/6 per length less.

The "Four Oaks" Marvellous Nozzle,

No. 68

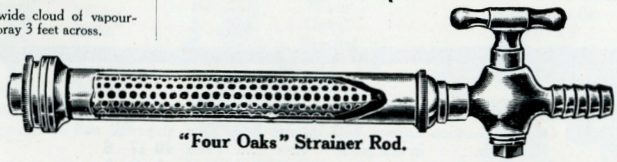
Price 5/6

Gives a wide cloud of vapour-like spray 3 feet across.

Cattle Nozzle, No. 45

A very useful appliance for farmers and veterinary surgeons. Wood, lined with aluminium. Can be used with any of our machines.

Price, 14/6



"Four Oaks" Strainer Rod.

This is an **invaluable** addition to any machine, as every grower will realize. The Strainer absolutely prevents any choking or clogging of the nozzle. It can be **immediately** removed **for cleaning** purposes; also the thicker part of the rod, which contains the Strainer, forms an excellent handle for holding rod whilst spraying.

Price, **8/9** extra to the ordinary Spraying Rod.

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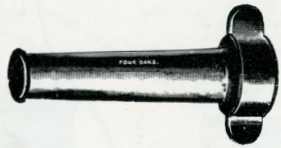
Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

A FEW USEFUL EXTRA
ACCESSORIES FOR THE
"FOUR OAKS"
LIMEWASHING AND
SPRAYING MACHINES.

REGISTERED TRADE MARK
THE FOUR OAKS

All these useful Accessories will fit ANY of our Machines, all threads being universal in size.



"Four Oaks" Straight Jet, for washing, etc.
No. 17 Price, **4/6**

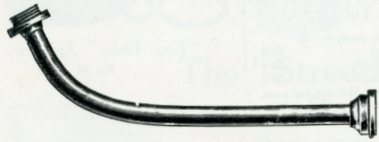
This Jet converts any Machine into FIRE EXTINGUISHER.

No. 43

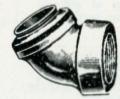
"Four Oaks" Movable Angle Joint.

Most popular, enables user to Spray or Limewash easily in most difficult places. We recommend every purchaser of one of our machines to have one of these

Price, **7/6**



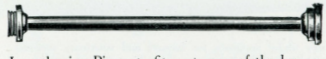
Tube Angle Bend, 12 inches long.
No. 41 Price, **3/-**
An invaluable addition to any machine.



Bend, No. **40**

For Spraying and Limewashing the undersides of branches, etc.

Price, **3/-**



Lengthening Pieces to fit on to any of the lances, 12 inches long.
No. 42 Price, **3/-**

"Four Oaks" Long Tubes for Limewashing high walls or spraying tall trees.
"FOUR OAKS" Bamboo Lances, with interior brass tube, stopcock, and all fittings.

4ft.	in one piece	...	...	Price	£0 17 6
6ft. 6in.	,, ,,	...	...	,,	1 9 0
8ft.	,, ,,	...	...	,,	1 12 0
10ft. 6in.	,, ,,	...	...	,,	1 14 6
15ft.	in two pieces	...	...	,,	2 3 6

38

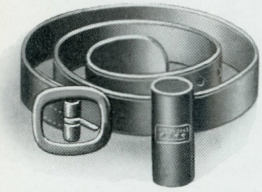
A FEW USEFUL EXTRA ACCESSORIES FOR THE "FOUR OAKS" GOLD MEDAL LIMEWASHING AND SPRAYING MACHINES.

REGISTERED TRADE MARK
THE FOUR OAKS

Illustration showing Long Tubes in use with the Belt and Socket illustrated below.

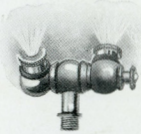
A special feature of the **"Four Oaks"** Long Tubes is the side inlet fitting, thus preventing damage to hose which takes place with all lances where the hose enters at end of Lance, and this construction also enables the use of Brass Supporting Socket as illustrated.

"Four Oaks" Special Leather Belt and Brass Socket,
for supporting long Lance.



Leather Belt and Brass Socket, complete.
Price, **14/6**

Single Swivel Spraying Nozzle.
with 3 Jets of different powers.
Price, 7/-



"Four Oaks" Double Swivel Nozzle,
convertible into Single, with 3 pairs of Jets of various powers.
Price, **10/6**

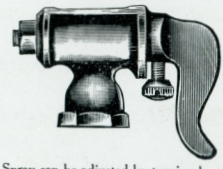
"Four Oaks" Lime-washing Nozzle.
No. 69
Price, **6/6**

The nozzle for limewash or any thick washes.

"Four Oaks" Nozzle.
No. 51 5/6

When the small cap is inside, Nozzle No. 51 gives a very fine spray, suitable for trees or disinfecting. By taking out the small cap, a straight jet is obtained, suitable for carriage or window washing etc.

The "Four Oaks" Seneca Nozzle.
Price, **5/6**



Spray can be adjusted by turning lever. Can be cleared, if choked, by reversing lever.

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Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*

THE
"FOUR OAKS"
PORTABLE
FIRE PUMP No. 1.

REGISTERED TRADE MARK
THE FOUR OAKS

For Institutions, Works, Public Buildings, Country Estates, Mills, Factories, Houses, etc.

No Chemicals. Always Ready. No fitting together
No parts to be lost at the critical moment.

This Pump is also excellent for washing down a motor car.

Throws a large jet of water a considerable distance.

Anyone can work this without any instruction.

PRICE **£6 6 6**

Complete with 10ft. Best Rubber Hose and Jet Pipe.
Powerful Pump, fitted into 6 gallon galvanized iron cistern painted vermilion.

We can also supply the same pump with an iron foot stand instead of container.

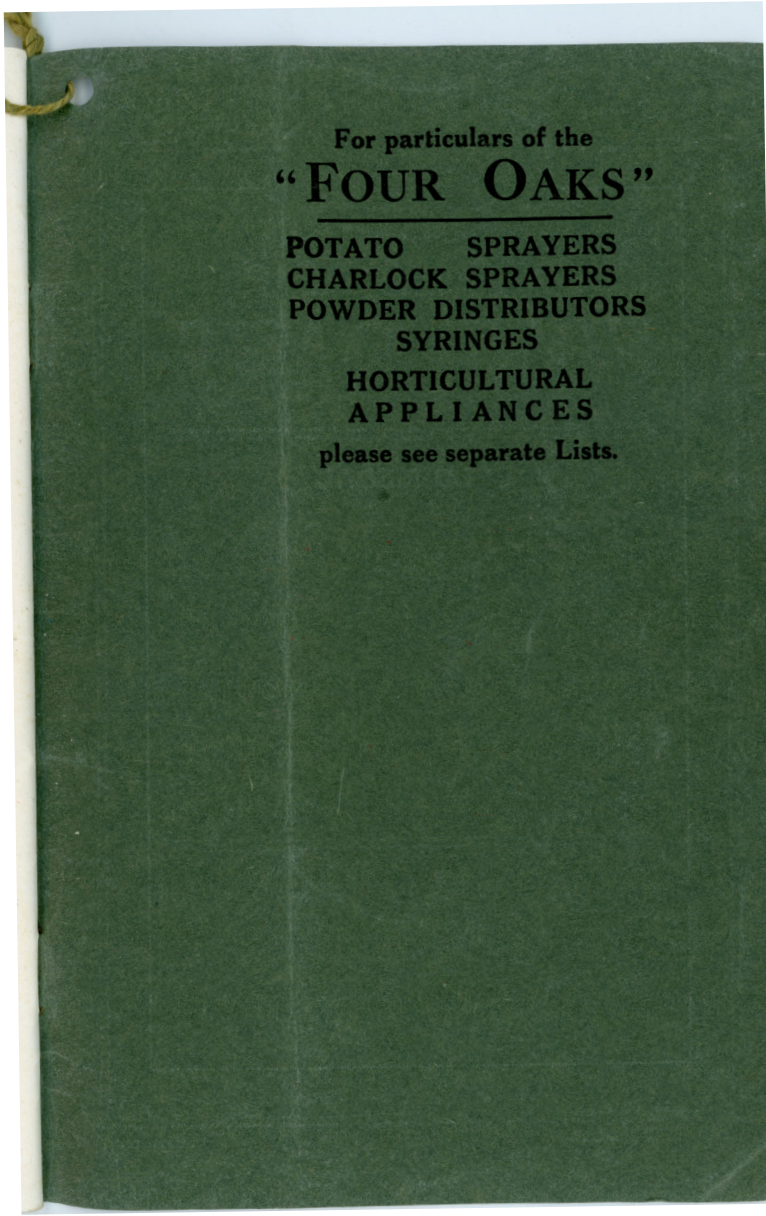
FIRE PUMP No. 2 **£3 18 0**

We manufactured many thousands of the above pumps for the Government during the War.

40

Four Oaks Spraying Machine Co

Appendix 10B - *Catalogue 35A - Full Catalogue*



Four Oaks Spraying Machine Co

Appendix 11 [E4] -1935 Advertisement (From Grace's Guide to British Industrial History)

Four Oaks Spraying Machine Co

FOUR OAKS SPRAYING MACHINES

The "Four Oaks" Gold Medal Syringes (S).
(Patent). The greatest boon to the gardener ever invented. Acknowledged by all users the best syringes the world has ever seen. No gardener who has once seen these syringes will ever buy any other.

"Four Oaks" Undentable Syringe, the gardener's ideal Syringe, complete with jet as illustrated, also fine and coarse roses.

	Ladies' size	Standard size	Large size
No. 1. Best quality, with teak handle	1¼ × 16 in. 27/6	1¼ × 20 in. 30/6	1¼ × 20 in. 43/6
No. 2. Good quality, rosewood handle	1¼ × 16 in. 26/-	1¼ × 18 in. 30/3	1¼ × 18 in. 36/6

☞ Standard sizes strongly recommended.

"Four Oaks" Undentable Angle-Jointed Syringe, invaluable for syringing the undersides of leaves and branches which cannot be reached by the ordinary syringe, is the Undentable Syringe illustrated above, with the addition of an angle joint.

	Ladies' size	Standard size	Large size
No. 5. Best quality, teak handle	1¼ × 16 in. 36/6	1¼ × 20 in. 46/6	1¼ × 20 in. 58/3
No. 6. Good quality, rosewood handle	1¼ × 16 in. 34/6	1¼ × 18 in. 40/6	1¼ × 18 in. 48/3

☞ Standard sizes strongly recommended.

The "Four Oaks" Undentable Spraying Syringe. The most useful syringe it is possible to have in a garden. Gives a fine vapour or mist-like spray. Invaluable for ordinary spraying or for distributing Insecticides.

No. 9. 1¼ × 20 in. 21/6. 1¼ × 20 in. 28/6.
Is fitted with quick filling ball valve. The 1¼ × 20 in. size strongly recommended.

The "Four Oaks" Undentable Angle-Jointed Spraying Syringe. This is the same syringe as No. 9 illustrated above, but with the addition of an angle joint for spraying the undersides of leaves and branches. An invaluable syringe.

No. 9/AJ. 1¼ × 20 in. 31/-. 1¼ × 20 in. 38/6
The 1¼ × 20 in. size strongly recommended.
☞ Awarded a Gold Medal at Hexham Fruit Congress.

"Four Oaks" Plain Sprayer. No. 50.
The cheapest and best plain barrel Spraying Syringe on the market. Rose supplied in addition to Spraying Nozzle.

	14 × 1 in.	20 × 1 in.	20 × 1¼ in.	20 × 1½ in.
No. 50. Without bend	14/9	16/3	24/9	30/3
No. 50AB. With angle bend	17/3	20/9	27/9	33/6

No. 120. New "Four Oaks" Patent Syringe with improved Drip Preventer. Best quality and finish. Complete as No. 50.

	14 × 1 in.	20 × 1 in.	20 × 1¼ in.	20 × 1½ in.
No. 120. Without bend	18/3	21/6	29/6	34/6
No. 120AB. With angle bend	20/9	24/3	32/-	37/9

Postage extra.

(Reproduced from The CGA [Country Gentlemen's Association] General Price Book 1938)

Four Oaks Spraying Machine Co

Appendix 13 - *1938 Advertisement (From Grace's Guide to British Industrial History)*

SIX AWARDS OF MERIT (Highest Honours) 1935-6 SPRAYING TRIALS

OUR TRADE MARK

FOR 42 YEARS

Four Oaks

Gold Medal Limewashing and Spraying Pump (S).

The "Four Oaks" "ATTACHABLE" Pattern.

Suitable for spraying Fruit Trees, Potatoes, etc., or any kind of limewashing

A LONG-FELT WANT.

A powerful pump which can be fixed to any container in a few seconds by simply screwing three wing nuts.

The pump is all brass and the valves brass ball valves.

Specially designed for those who require a really good powerful pump which can be fixed to any container they already have.

PRICES.

Attachable No. 1.—Exclusive of container, but complete with pump and all fittings strainer, 15 ft. best quality hose, short brass lance as illustrated, and spraying and limewashing nozzles.

£8 1 0

Attachable No. 2.—Similar in design to above but very much more powerful and twice capacity.

£10 7 0

Four Oaks Spraying Machine Co

Appendix 14 - *1938 Advertisement (From Grace's Guide to British Industrial History)*

Four Oaks Spraying Machine Co

Appendix 15 - *1938 Advertisement (From Grace's Guide to British Industrial History)*

Four Oaks Spraying Machine Co

Appendix 16 - 1938 Advertisement (From Grace's Guide to British Industrial History)

The "Four Oaks" Portable FIRE Pump No. 1 (S).

FOR INSTITUTIONS, WORKS, PUBLIC BUILDINGS, COUNTRY ESTATES, MILLS, FACTORIES, HOUSES, ETC. No Chemicals. Always Ready. No fitting together.

OUR TRADE MARK

COPYRIGHT

REGISTERED TRADE MARK

THE FOUR OAKS

FOR 42 YEARS

No parts to be lost at the critical moment
This pump is also excellent for washing down a motor-car.
No private residence should be without one of these pumps.
Invaluable on every country estate.
Throws a large jet of water a considerable distance.
Anyone can work this without any instruction.

PRICE £6 6s. 6d.

Complete with 10 ft. best rubber hose and jet pipe. Powerful pump fitted into 6-gallon galvanized iron cistern, painted vermilion.
We can also supply the same pump with an iron foot stand instead of container.

FIRE PUMP No. 2.
PRICE £3 18s. 0d.

We manufactured many thousands of the above pumps for the Government during the War.

The "Wizard de Luxe" Pattern

(Registered Design)

Lever action to pump, easy working, swinging fulcrum, allowing operator to stand in any desired position to work.

PRICE—Complete with 10 feet Rubber Hose, Brass Spraying Arm with Stopcock, Strainer, Limewashing Nozzle and Spraying Nozzle, which also forms a straight jet.

£6 1 0

Capacity 6 gallons
Very Strong Fluted Container
(Registered)

Compact, handy shape for carrying

Spare parts for this machine, Box B 3/6 extra. See pages 711, 712, and 713 for particulars of patent agitator, patent unchokable nozzle, long lances, bend and other useful accessories.

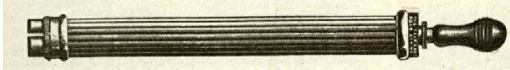
See your Member's Ticket for "C.G.A." discounts.

Four Oaks Spraying Machine Co

Appendix 17 - 1938 Advertisement (From Grace's Guide to British Industrial History)

Four Oaks Spraying Machine Co

Appendix 18 - *1939 Iron Mongers Buyers Guide*



16 in .x 1 ¼ in.	...	25/-
20 in. x 1 ½ in.	...	32/6
20 in. x 1 ¾ in.	...	39/6

Four Oaks Spraying Machine Co

Appendix 19 - *1940 Advertisement (From Grace's Guide to British Industrial History)*

Now Awarded 60 Gold and Silver Medals, Cups, &c.

REGISTERED TRADE MARK — THE FOUR OAKS

Every Genuine "FOUR OAKS" Machine bears our Registered Trade Mark.

Refuse Inferior Imitations without Trade Mark which, though possibly cheaper, are worthless and costly in the end.

THE FOUR OAKS

Gold Medal

SPRAYING AND LIMEWASHING MACHINES

are acknowledged —by all users as— **THE BEST IN THE WORLD.**

USES.—These Machines are invaluable to Farmers, Stockbreeders, Horse-owners, Cow-keepers, Dairymen, and others, for Limewashing Farm Buildings, Stables, Cowhouses, Shippons, Dairies, &c. They are also indispensable for the Spraying of Sheep and Cattle for fly. Also to Dog Fanciers, for Limewashing and Disinfecting Kennels; Poultry Keepers, for Fowl Houses; Pig Breeders, for Pigsties, &c.

They are used for Disinfecting Walls and Buildings of every description, and for Limewashing Bakehouses, Slaughterhouses, Factories, Mills, Collieries, Trucks, Docks, &c.

Largely used for washing down Motor Cars, Traps, Carriages, &c., also Windows. Frequently used as Fire Extinguishers and even for painting large surfaces with oil paint.

Will also spray Liquid Cement.

Four Oaks "**Bridgwater**" Pattern, 18 gallons. **£20 . 2 . 6**

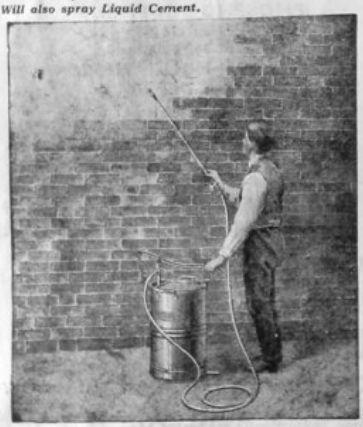


Illustration shows "**Wizard**" Pattern limewashing a wall. Price of "Wizard" Pattern, as illustration (capacity 6 gallons) and complete with 10ft. rubber hose and two nozzles. **£5 . 14 . 6**

ADVANTAGES.—With a "Four Oaks" Machine, 500 square feet can be beautifully limewashed in ten minutes, without splashing or inconvenience, and, no scaffolding being necessary, reduces the risk of accidents.

One coat applied with a machine on rough, uneven walls or surfaces is equal to two coats applied with a brush.

Also, the material, being applied as a spray by a powerful pump, is driven into cracks and crevices where disease and insect pests breed, and where no brush could ever reach.

With a machine a man can do as much in half an hour as in a day with a brush.

SOLE PATENTEES AND MANUFACTURERS:

THE "FOUR OAKS" SPRAYING MACHINE COMPANY,

Contractors to H.M. War Office, Admiralty, India Office, London County Council and many Public Bodies.

Spraying, Limewashing & Disinfecting Machine Specialists, & Spraying Nozzle Manufacturers.

"FOUR OAKS" WORKS, FOUR OAKS, BIRMINGHAM, ENGLAND.

Complete Catalogues Free on application.
Telegraphic Address: "SPRAYERS, FOUR OAKS."
Telephone No.: 305 FOUR OAKS.

Active Representatives and Agents wanted everywhere not represented. Correspondence invited on all matters connected with Spraying, Limewashing, and Disinfecting.

Owing to the International Situation all prices are now withdrawn and orders can only be booked at the prices ruling when the order is received.

Four Oaks Spraying Machine Co

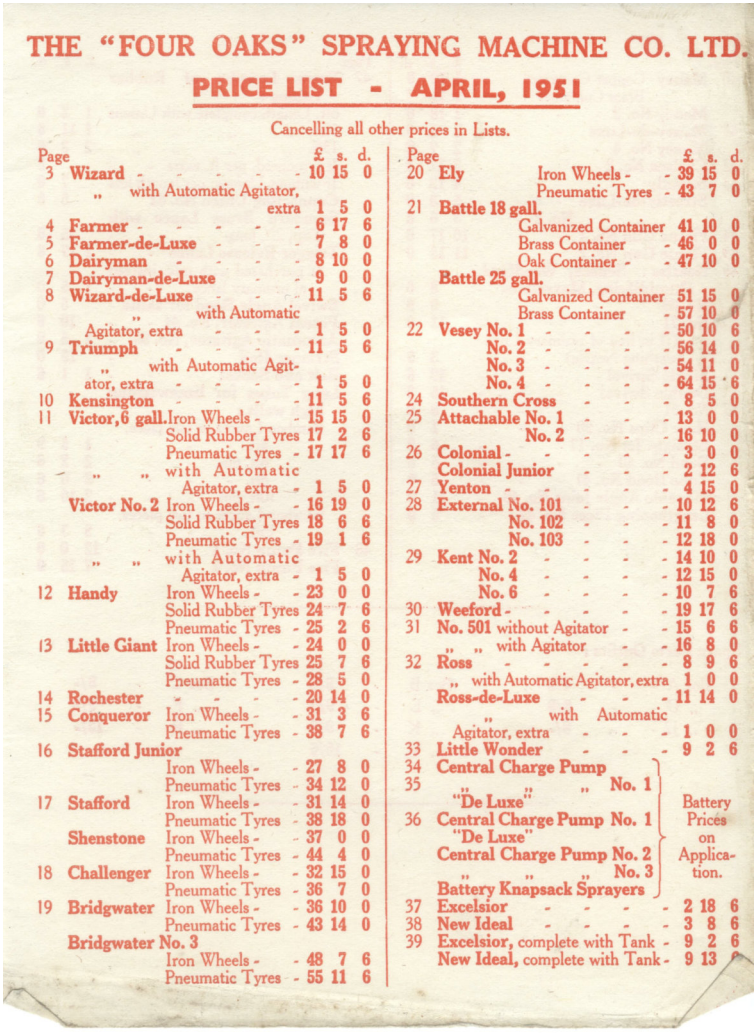
Appendix 20 - *1945 Advertisement*

Four Oaks Spraying Machine Co

Appendix 21 - *1951 Advertisement (From Grace's Guide to British Industrial History)*

Four Oaks Spraying Machine Co

Appendix 22A - *1951 Price List*



THE "FOUR OAKS" SPRAYING MACHINE CO. LTD.

PRICE LIST - APRIL, 1951

Cancelling all other prices in Lists.

Page			£	s.	d.
3	Wizard		10	15	0
	"	with Automatic Agitator, extra	1	5	0
4	Farmer		6	17	6
5	Farmer-de-Luxe		7	8	0
6	Dairyman		8	10	0
7	Dairyman-de-Luxe		9	0	0
8	Wizard-de-Luxe		11	5	6
	"	with Automatic Agitator, extra	1	5	0
9	Triumph		11	5	6
	"	with Automatic Agitator, extra	1	5	0
10	Kensington		11	5	6
11	Victor, 6 gall.	Iron Wheels	15	15	0
		Solid Rubber Tyres	17	2	6
		Pneumatic Tyres	17	17	6
	" "	with Automatic Agitator, extra	1	5	0
	Victor No. 2	Iron Wheels	16	19	0
		Solid Rubber Tyres	18	6	6
		Pneumatic Tyres	19	1	6
	" "	with Automatic Agitator, extra	1	5	0
12	Handy	Iron Wheels	23	0	0
		Solid Rubber Tyres	24	7	6
		Pneumatic Tyres	25	2	6
13	Little Giant	Iron Wheels	24	0	0
		Solid Rubber Tyres	25	7	6
		Pneumatic Tyres	28	5	0
14	Rochester		20	14	0
15	Conqueror	Iron Wheels	31	3	6
		Pneumatic Tyres	38	7	6
16	Stafford Junior				
		Iron Wheels	27	8	0
		Pneumatic Tyres	34	12	0
17	Stafford	Iron Wheels	31	14	0
		Pneumatic Tyres	38	18	0
	Shenstone	Iron Wheels	37	0	0
		Pneumatic Tyres	44	4	0
18	Challenger	Iron Wheels	32	15	0
		Pneumatic Tyres	36	7	0
19	Bridgwater	Iron Wheels	36	10	0
		Pneumatic Tyres	43	14	0
	Bridgwater No. 3				
		Iron Wheels	48	7	6
		Pneumatic Tyres	55	11	6

Page			£	s.	d.
20	Ely	Iron Wheels	39	15	0
		Pneumatic Tyres	43	7	0
21	Battle 18 gall.				
		Galvanized Container	41	10	0
		Brass Container	46	0	0
		Oak Container	47	10	0
	Battle 25 gall.				
		Galvanized Container	51	15	0
		Brass Container	57	10	0
22	Vesey No. 1		50	10	6
	No. 2		56	14	0
	No. 3		54	11	0
	No. 4		64	15	6
24	Southern Cross		8	5	0
25	Attachable No. 1		13	0	0
	No. 2		16	10	0
26	Colonial		3	0	0
	Colonial Junior		2	12	6
27	Yenton		4	15	0
28	External No. 101		10	12	6
	No. 102		11	8	0
	No. 103		12	18	0
29	Kent No. 2		14	10	0
	No. 4		12	15	0
	No. 6		10	7	6
30	Weeford		19	17	6
31	No. 501 without Agitator		15	6	6
	" " with Agitator		16	8	0
32	Ross		8	9	6
	" with Automatic Agitator, extra		1	0	0
	Ross-de-Luxe		11	14	0
	" with Automatic Agitator, extra		1	0	0
33	Little Wonder		9	2	6
34	Central Charge Pump				
35	" " " No. 1 "De Luxe"				Battery Prices on Application.
36	Central Charge Pump No. 1 "De Luxe"				
	Central Charge Pump No. 2				
	" " " No. 3				
	Battery Knapsack Sprayers				
37	Excelsior		2	18	6
38	New Ideal		3	8	6
39	Excelsior, complete with Tank		9	2	6
	New Ideal, complete with Tank		9	13	6

Four Oaks Spraying Machine Co

Appendix 22B *1951 Price List*

Page		£	s.	d.
40	Maney Copper Container	1	10	0
	Brass Container	1	11	6
	Maney No. 3	1	18	6
41	Maney-de-Luxe	2	5	0
	Maney No. 4	2	7	6
42	Chelsea No. 2	3	17	6
43	Streetly	4	12	6
	Streetly-de-Luxe	5	0	0
	,, No. 2	3	6	6
44	Flame Gun No. 1	10	17	6
45	Flame Gun No. 2	11	15	0
46	Nozzles: Seneca, Woodford, Humidifying, Marvellous		8	0
	No. 69		9	9
	No. 71		11	0
	(If in lieu of ordinary Lime-washing Nozzle)		3	9
	Single Swivel		10	6
	Double Swivel		15	3
46	No. 51		8	0
	Hose Clips No. 90		1	0
	Straight Jet No. 17		6	9
	Bend No. 40		5	0
	Tube Bend No. 41		5	0
	Movable Angle Joint No. 43		11	0
	Lengthening Piece No. 42		5	0

Page		£	s.	d.
47	Extra Lengths of Rubber Tubing:			
	6ft. Length complete with Unions	1	2	0
	10ft. ,, ,, ,, ,,	1	11	6
	15ft. ,, ,, ,, ,,	2	3	6
	If armoured, per ft. extra			6
	If without Unions, per length less		7	0
	Connecting Union No. 82		5	0
	Standard Brass Lance with Tap, 2ft. long		15	0
	Trigger Release Lance	1	17	6
	If purchased with m/c. instead of ordinary lance	1	5	0
	Swivel Angle Bend for same		5	0
	Patent Agitator, No. 44		10	6
	Automatic Agitator, No. 95	1	5	0
	Strainer Rod		15	0
	Belt and Socket	1	1	6
	Long Tubes for limewashing high walls:			
	Bamboo Lances in one piece, 4ft.	1	5	9
	6ft. 6in.	2	2	6
	8ft.	2	6	6
	10ft. 6in.	2	10	6
	Bamboo Lances in two pieces, 15ft.	3	3	6
48	Fire Pump No. 1	12	0	0
	Fire Pump No. 2	7	15	0

Spare Parts Outfits:

Box A - 4/9	Box B - 5/6	Box C - 8/-
,, D - 9/9	,, E - 9/9	,, F - 9/9
,, J2 - 8/-	,, K - 9/9	,, R - 13/-
	,, V - 10/6	

Four Oaks Spraying Machine Co

Appendix 23 *1953 Country Gentlemen's Association*

FOUR OAKS SPRAYING MACHINES

210 SYRINGES — Full Particulars

"FOUR OAKS" GOLD MEDAL SYRINGES.

Undentable Garden Syringes. (1)

THE FOUR OAKS UNDENTABLE SYRINGE

PATENT

"Four Oaks" Undentable Syringe, the gardener's ideal Syringe, complete with jet as illustrated, also fine and coarse roses, not fine Spraying nozzle.

No. 1. 15 × 20 in. £2 15 0 — No. 1. 13 × 18 in. £2 10 0

Movable Angle Joint, which can be set in any position. 15/- extra.

THE "FOUR OAKS" SPRAYING SYRINGES

The "Four Oaks" Undentable Angle-Jointed Spraying Syringe. This is the same syringe as No. 9 illustrated right, but with the addition of an angle joint for spraying the undersides of leaves and branches.

No. 9AJ. 15 × 20 in. £2 7 6

"Four Oaks" Plain Barrel Syringe. No. 50. Rose supplied in addition to Spraying Nozzle.

No. 50. Without bend
14 × 1 in. £2 2 6
20 × 1 in. £2 7 6

No. 50AB. With angle bend
14 × 1 in. £2 6 6
20 × 1 in. £2 11 6

No. 120. New "Four Oaks" Syringe with Improved Drip Preventer. Best quality and Finish. Complete as No. 50.

No. 120. Without bend
14 × 1 in. £2 7 6
20 × 1 in. £2 12 6

No. 120AB. With angle bend
14 × 1 in. £2 11 6
20 × 1 in. £2 16 6

The "Four Oaks" Undentable Spraying Syringe. The most useful syringe it is possible to have in a garden. Gives a fine vapour or mist-like spray. Invaluable for ordinary spraying or for distributing insecticides.

No. 9. 15 × 20 in. Is fitted with quick filling ball valve. £2 15 0. Angle Bend extra 4/-.

All Prices are subject to

(Reproduced from The CGA [Country Gentlemen's Association] General Price Book 1953)

Four Oaks Spraying Machine Co

Appendix 24 *Unknown Date - from prices pre 1954.*

GARDEN REQUISITES SECTION : SPRAYING APPLIANCES AND SYRINGES, ETC. 43

FOUR OAKS

Spraying Equipment for every purpose

Knapsack Sprayers
Pneumatic Sprayers
Wheeled Machines
Hand Sprayers
Syringes
Spraying Pumps
Flame Guns for weed destruction
Mechanized and Self-Propelled types
Tractor-Mounted Spraying Units and Trailer Models

KNAPSACK SPRAYERS

3½-gallons capacity. No. 101, Copper container £14 0 0
No. 102. Tinned-brass container £14 17 6
No. 103. Lead-coated container £16 12 6

FOUR OAKS "STAFFORD"

With automatic agitator. One of our larger wheeled machines. Capacity 18 gallons. £34 17 6

FOUR OAKS "FARMER"

One of our range of popular bucket-type machines. £7 10 6

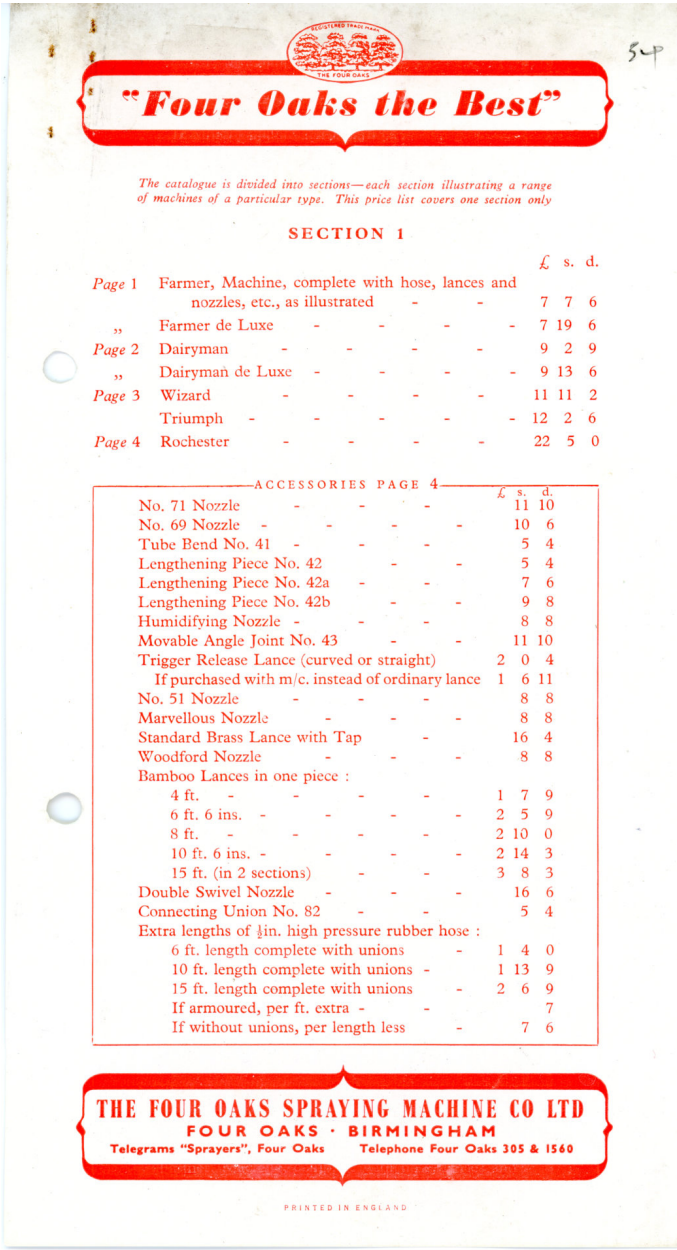
FOUR OAK SPRAYERS have earned a high reputation all over the World for efficient design and quality in workmanship and materials.

A fully illustrated, sectional catalogue describing all patterns including the latest MECHANIZED SPRAYERS will gladly be sent on request.

THE FOUR OAKS SPRAYING MACHINE C° LTD
FOUR OAKS · BIRMINGHAM
Phone : Four Oaks 305 & 1560 Grams : Sprayers · Four Oaks

Four Oaks Spraying Machine Co

Appendix 25A *Catalogue 1954 Price List (Thought to be the one that came with the catalogue).*



"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

SECTION 1

		£	s.	d.
Page 1	Farmer, Machine, complete with hose, lances and nozzles, etc., as illustrated	7	7	6
,,	Farmer de Luxe	7	19	6
Page 2	Dairyman	9	2	9
,,	Dairyman de Luxe	9	13	6
Page 3	Wizard	11	11	2
	Triumph	12	2	6
Page 4	Rochester	22	5	0

ACCESSORIES PAGE 4

	£	s.	d.
No. 71 Nozzle		11	10
No. 69 Nozzle		10	6
Tube Bend No. 41		5	4
Lengthening Piece No. 42		5	4
Lengthening Piece No. 42a		7	6
Lengthening Piece No. 42b		9	8
Humidifying Nozzle		8	8
Movable Angle Joint No. 43		11	10
Trigger Release Lance (curved or straight)	2	0	4
If purchased with m/c. instead of ordinary lance	1	6	11
No. 51 Nozzle		8	8
Marvellous Nozzle		8	8
Standard Brass Lance with Tap		16	4
Woodford Nozzle		8	8
Bamboo Lances in one piece :			
4 ft.	1	7	9
6 ft. 6 ins.	2	5	9
8 ft.	2	10	0
10 ft. 6 ins.	2	14	3
15 ft. (in 2 sections)	3	8	3
Double Swivel Nozzle		16	6
Connecting Union No. 82		5	4
Extra lengths of ½in. high pressure rubber hose :			
6 ft. length complete with unions	1	4	0
10 ft. length complete with unions	1	13	9
15 ft. length complete with unions	2	6	9
If armoured, per ft. extra			7
If without unions, per length less		7	6

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
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PRINTED IN ENGLAND

Four Oaks Spraying Machine Co

Appendix 25B - *Catalogue 1954 Price List*

"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

SECTION 2

			£	s.	d.
Page 1	Victor 6 gal.	Iron Wheel	16	19	0
		Solid Rubber Tyre	17	13	6
		Pneumatic Tyre	19	4	3
		Automatic Agitator, extra	1	7	0
,,	Victor No. 2	Iron Wheel	18	3	6
		Solid Rubber Tyre	18	19	6
		Pneumatic Tyre	21	5	0
		Automatic Agitator, extra	1	7	0
,,	Handy	Iron Wheel	24	14	6
		Solid Rubber Tyre	25	9	3
		Pneumatic Tyre	27	0	0
Page 2	Little Giant	Iron Wheels	25	16	0
		Solid Rubber Tyres	28	15	0
		Pneumatic Tyres	30	7	6
,,	Stafford Junior	Iron Wheels	29	9	0
		Pneumatic Tyres	37	3	10
Page 3	Stafford	Iron Wheels	33	19	0
		Pneumatic Tyres	41	16	4
,,	Challenger	Iron Wheel	35	4	2
		Pneumatic Tyre	39	1	6
Page 4	Bridgwater	Iron Wheels	39	4	9
		Pneumatic Tyres	46	19	6
,,	Bridgwater No. 3	Iron Wheels	52	7	6
		Pneumatic Tyres	63	14	10

ACCESSORIES PAGE 4

	£	s.	d.
No. 71 Nozzle		11	10
No. 69 Nozzle		10	6
Tube Bend No. 41		5	4
Lengthening Piece No. 42		5	4
Lengthening Piece No. 42a		7	6
Lengthening Piece No. 42b		9	8
Humidifying Nozzle		8	8
Movable Angle Joint No. 43		11	10
Trigger Release Lance (curved or straight)	2	0	4
If purchased with m/c. instead of ordinary lance	1	6	11
No. 51 Nozzle		8	8
Marvellous Nozzle		8	8
Standard Brass Lance with Tap		16	4
Woodford Nozzle		8	8
Bamboo Lances in one piece :			
4 ft.	1	7	9
6 ft. 6 ins.	2	5	9
8 ft.	2	10	0
10 ft. 6 ins.	2	14	3
15 ft. (in 2 sections)	3	8	3
Double Swivel Nozzle		16	6
Connecting Union No. 82		5	4
Extra lengths of ½in. high pressure rubber hose:			
6 ft. length complete with unions	1	4	0
10 ft. length complete with unions	1	13	9
15 ft. length complete with unions	2	6	9
If armoured, per ft. extra			7
If without unions, per length less		7	6

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

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Four Oaks Spraying Machine Co

Appendix 25C - *Catalogue 1954 Price List*

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"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

SECTION 3

		£	s.	d.
Page 1	Stirrup Pump	2	9	0
	Hose fitted per ft.			8
,,	Colonial	4	4	6
Page 2	Yenton	5	2	2
,,	Southern Cross	8	17	4
Page 3	Attachable No. 1	13	19	6
	,, No. 2	17	14	9

ACCESSORIES PAGE 3

	£	s.	d.
No. 71 Nozzle		11	10
No. 69 Nozzle		10	6
Tube Bend No. 41		5	4
Lengthening Piece No. 42		5	4
Lengthening Piece No. 42a		7	6
Lengthening Piece No. 42b		9	8
Humidifying Nozzle		8	8
Movable Angle Joint No. 43		11	10
Trigger Release Lance (curved or straight)	2	0	4
If purchased with m/c. instead of ordinary lance	1	6	11
No. 51 Nozzle		8	8
Marvellous Nozzle		8	8
Standard Brass Lance with Tap		16	4
Woodford Nozzle		8	8
Bamboo Lances in one piece :			
4 ft.	1	7	9
6 ft. 6 ins.	2	5	9
8 ft.	2	10	0
10 ft. 6 ins.	2	14	3
15 ft. (in 2 sections)	3	8	3
Double Swivel Nozzle		16	6
Connecting Union No. 82		5	4
Extra lengths of ½in. high pressure rubber hose:			
6 ft. length complete with unions	1	4	0
10 ft. length complete with unions	1	13	9
15 ft. length complete with unions	2	6	9
If armoured, per ft. extra			7
If without unions, per length less		7	6

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

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Four Oaks Spraying Machine Co

Appendix 25D - *Catalogue 1954 Price List*

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"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

SECTION 4

	£	s.	d.
Maney, Copper Container	1	17	6
Brass Container	1	18	0
Maney, No. 3	2	3	0
Maney de Luxe	2	8	6
Maney No. 4	2	13	0
Chelsea	4	3	6
Princess	2	13	0
Streetley	4	19	6
Streetley de Luxe	5	7	6

Brass Syringes	£	s.	d.
D. 1		14	0
D. 2		16	0
D. 3	1	1	0
D. 4		18	6
D. 5	1	4	0
D. 6	1	1	0
D. 7	1	9	0
D. 8	1	19	6
D. 9	1	19	6

	£	s.	d.
Excelsior	3	3	0
New Ideal	3	13	8
Excelsior complete with tank	9	16	2
New Ideal complete with tank	10	8	0

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
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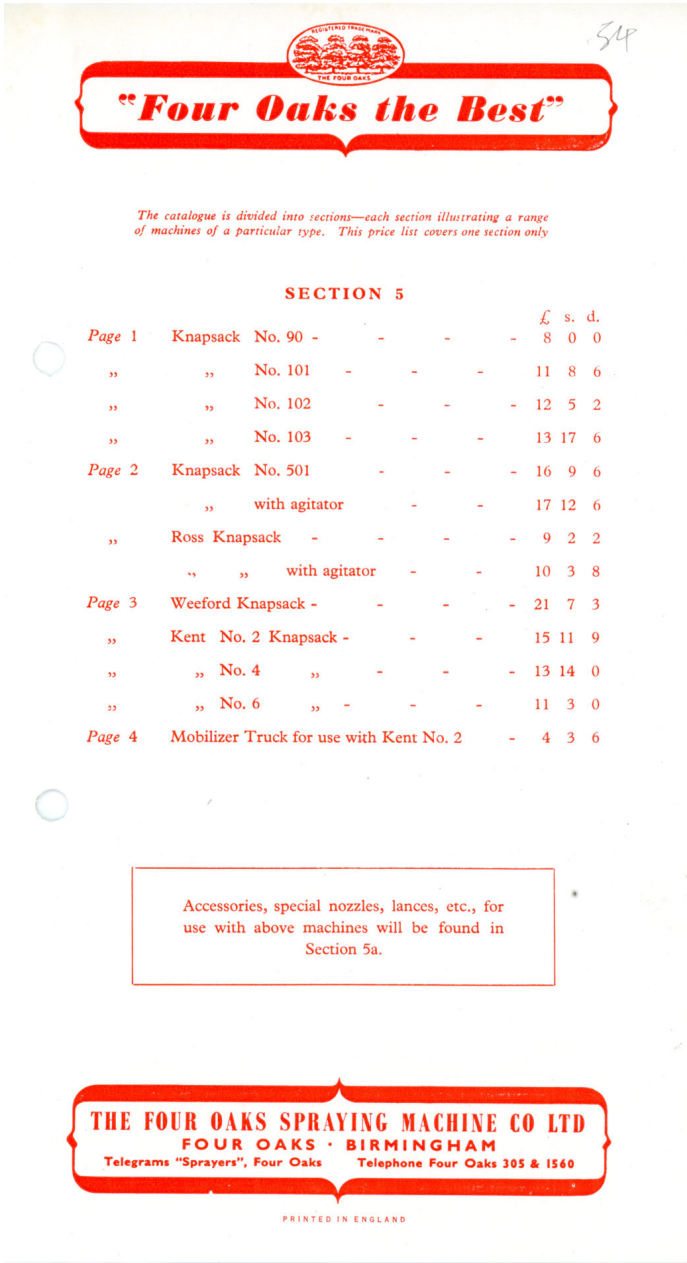
Four Oaks Spraying Machine Co

Appendix 25E - *Catalogue 1954 Price List*



"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

SECTION 5

		£	s.	d.
Page 1	Knapsack No. 90 - - - -	8	0	0
,,	,, No. 101 - - -	11	8	6
,,	,, No. 102 - - -	12	5	2
,,	,, No. 103 - - -	13	17	6
Page 2	Knapsack No. 501 - - -	16	9	6
	,, with agitator - -	17	12	6
,,	Ross Knapsack - - - -	9	2	2
	,, ,, with agitator - -	10	3	8
Page 3	Weeford Knapsack - - - -	21	7	3
,,	Kent No. 2 Knapsack - - -	15	11	9
,,	,, No. 4 ,, - - -	13	14	0
,,	,, No. 6 ,, - - -	11	3	0
Page 4	Mobilizer Truck for use with Kent No. 2 -	4	3	6

Accessories, special nozzles, lances, etc., for use with above machines will be found in Section 5a.

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

PRINTED IN ENGLAND

Four Oaks Spraying Machine Co

Appendix 25F - *Catalogue 1954 Price List*

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"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

PRICE LIST

SECTION 5A

Accessories for use in Section 5.

Page 1	£	s.	d.
Tee Jet Nozzle complete		17	3
Tee Jet Nozzle Tip and Filter		9	2
Humidifying Nozzle No. 93		8	7
Nozzle No. 51		8	7
Woodford Nozzle No. 92		8	7
Double Swivel Nozzle No. 94		16	5
Moveable Angle Joint No. 43		11	10
Marvellous Nozzle No. 68		8	7
Connecting Union No. 82		5	5
Single Swivel Nozzle No. 93		11	4
Strainer Rod No. S.R.		13	5
Strainer Rod No. T.R.L.		10	3
Constant Pressure Device No. 50	2	10	11
Fork Attachment No. 35		12	11
Lengthening Piece No. 42		5	5
Lengthening Piece No. 42A		7	6
Lengthening Piece No. 42B		9	8
Tube Bend No. 41 (12in. long)		5	5
Trigger Release Lance	2	0	4
Standard Brass Lance with Tap		16	2

Page 2.				
Cross Boom, No. 80, 12in.	(nozzles extra)	1	1	6
Cross Boom, No. 81, 24in.	(nozzles extra)	1	12	3
Cross Boom, No. 82, 36in.	(nozzles extra)	1	17	8
Cross Boom, No. 83, 48in.	(nozzles extra)	2	3	0
Side Boom, No. 86, 24in.	(nozzles extra)	1	12	3
Side Boom, No. 87, 36in.	(nozzles extra)	1	17	8
Kent Boom	(nozzles extra)	1	17	8
Dual Feed Boom, No. 88, 9ft.	(nozzles extra)	5	9	8
Dual Feed Boom, No. 89, 11ft.	(nozzles extra)	6	0	5
Extending Lance No 37				
Bamboo Lances in one piece :				
4ft.		1	7	9
6ft. 6in.		2	5	9
8ft.		2	10	0
10ft. 6in.		2	14	4
15ft. (in 2 sections)		3	8	4

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

Four Oaks Spraying Machine Co

Appendix 25G - *Catalogue 1954 Price List*

"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

SECTION 6

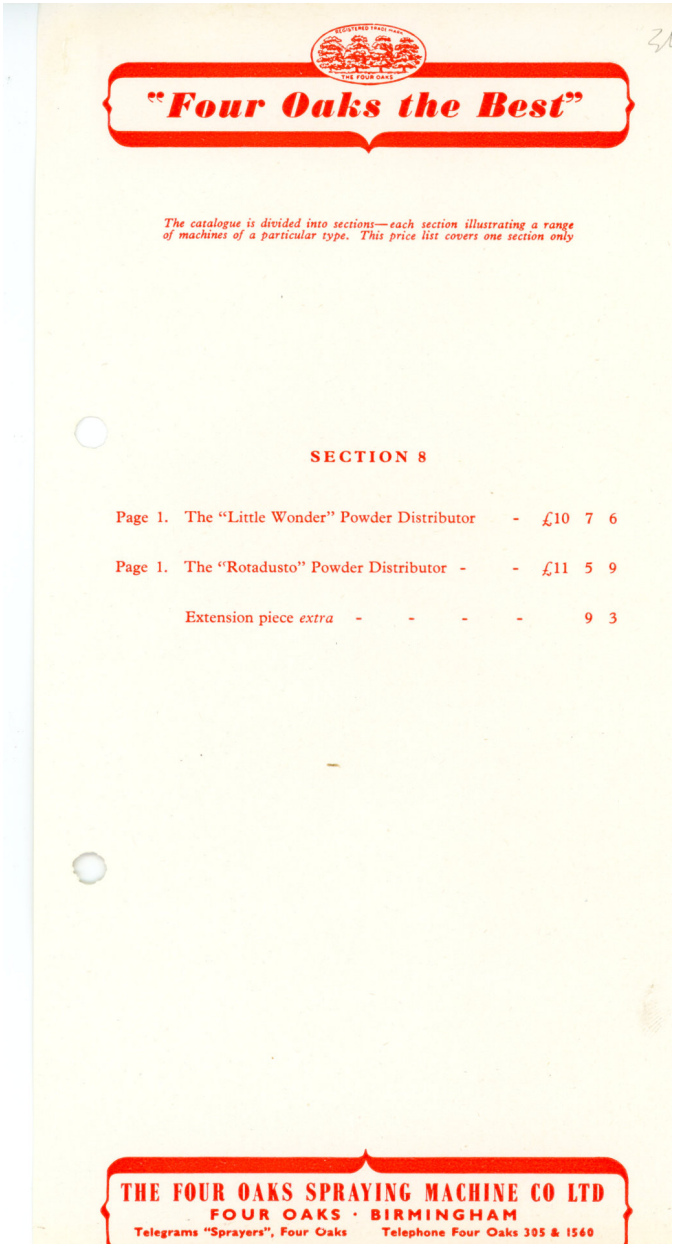
	£ s. d.
Flame Gun No. 1 - - -	11 13 10
Flame Gun No. 2 - - -	12 12 6
Bodkin Flame Thrower - - -	19 5 6

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

PRINTED IN ENGLAND

Four Oaks Spraying Machine Co

Appendix 25H - *Catalogue 1954 Price List*



"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

SECTION 8

Page 1.	The "Little Wonder" Powder Distributor -	£10 7 6
Page 1.	The "Rotadusto" Powder Distributor - -	£11 5 9
	Extension piece *extra* - - - -	9 3

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

Four Oaks Spraying Machine Co

Appendix 25I - *Catalogue 1954 Price List*

"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

SECTION 9

The Four Oaks Tractor Mounted Unit

£74 15s. 0d.

ex works

Filling attachment, if supplied with Unit - - £4 2s. 6d.

Ditto if supplied as an extra - - - - £5 0s. 0d.

Drop Legs attachment, for underleaf spraying, complete with special nozzles - - - £16 0s. 0d.

Trailer Model

£109 10s. 0d.

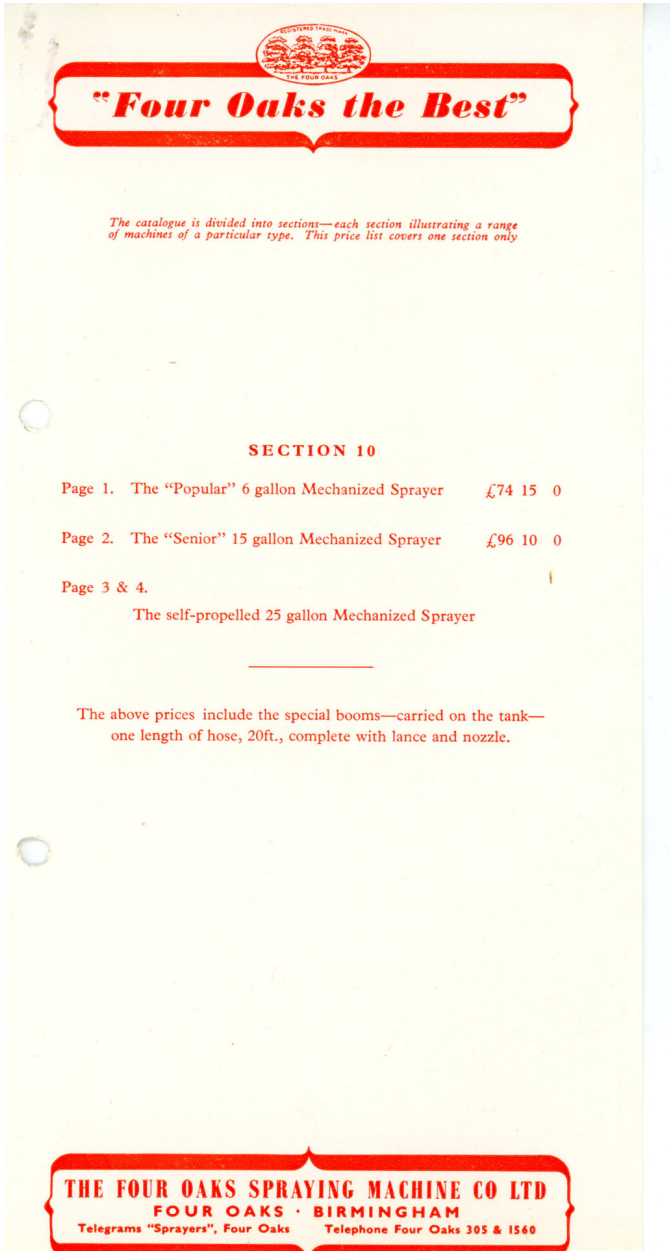
If required for fruit tree spraying, etc., the standard range of FOUR OAKS hoses, lances and nozzles can be used. (See Section 1, Page 4)

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

PRINTED IN ENGLAND

Four Oaks Spraying Machine Co

Appendix 25J *Catalogue 1954 Price List*



"Four Oaks the Best"

The catalogue is divided into sections—each section illustrating a range of machines of a particular type. This price list covers one section only

SECTION 10

Page 1. The "Popular" 6 gallon Mechanized Sprayer £74 15 0

Page 2. The "Senior" 15 gallon Mechanized Sprayer £96 10 0

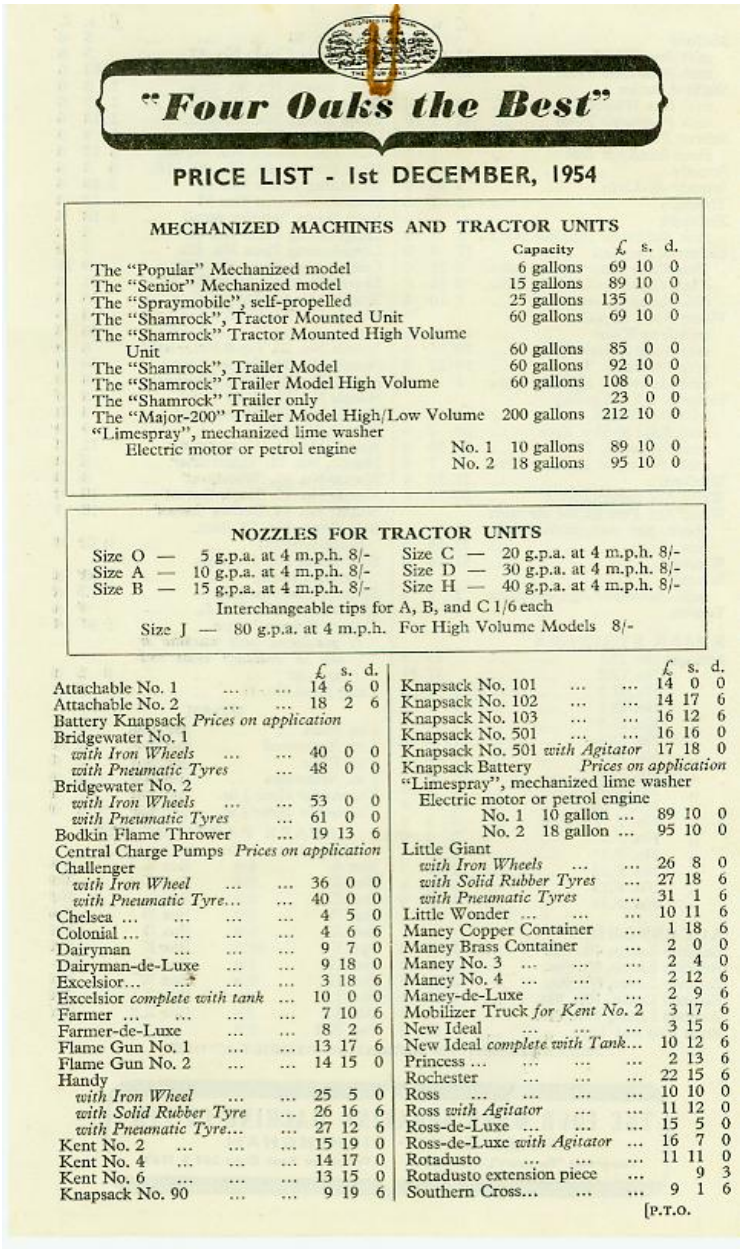
Page 3 & 4.
The self-propelled 25 gallon Mechanized Sprayer

The above prices include the special booms—carried on the tank—one length of hose, 20ft., complete with lance and nozzle.

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

Four Oaks Spraying Machine Co

Appendix 26A *Catalogue 1954. Price list side 1*



"Four Oaks the Best"

PRICE LIST - 1st DECEMBER, 1954

MECHANIZED MACHINES AND TRACTOR UNITS

	Capacity	£	s.	d.
The "Popular" Mechanized model	6 gallons	69	10	0
The "Senior" Mechanized model	15 gallons	89	10	0
The "Spraymobile", self-propelled	25 gallons	135	0	0
The "Shamrock", Tractor Mounted Unit	60 gallons	69	10	0
The "Shamrock" Tractor Mounted High Volume Unit	60 gallons	85	0	0
The "Shamrock", Trailer Model	60 gallons	92	10	0
The "Shamrock" Trailer Model High Volume	60 gallons	108	0	0
The "Shamrock" Trailer only		23	0	0
The "Major-200" Trailer Model High/Low Volume	200 gallons	212	10	0
"Limespray", mechanized lime washer Electric motor or petrol engine — No. 1	10 gallons	89	10	0
No. 2	18 gallons	95	10	0

NOZZLES FOR TRACTOR UNITS

Size O — 5 g.p.a. at 4 m.p.h. 8/- Size C — 20 g.p.a. at 4 m.p.h. 8/-
Size A — 10 g.p.a. at 4 m.p.h. 8/- Size D — 30 g.p.a. at 4 m.p.h. 8/-
Size B — 15 g.p.a. at 4 m.p.h. 8/- Size H — 40 g.p.a. at 4 m.p.h. 8/-
Interchangeable tips for A, B, and C 1/6 each
Size J — 80 g.p.a. at 4 m.p.h. For High Volume Models 8/-

	£	s.	d.
Attachable No. 1	14	6	0
Attachable No. 2	18	2	6
Battery Knapsack *Prices on application*			
Bridgewater No. 1			
with Iron Wheels	40	0	0
with Pneumatic Tyres	48	0	0
Bridgewater No. 2			
with Iron Wheels	53	0	0
with Pneumatic Tyres	61	0	0
Bodkin Flame Thrower	19	13	6
Central Charge Pumps *Prices on application*			
Challenger			
with Iron Wheel	36	0	0
with Pneumatic Tyre	40	0	0
Chelsea	4	5	0
Colonial	4	6	6
Dairyman	9	7	0
Dairyman-de-Luxe	9	18	0
Excelsior	3	18	6
Excelsior *complete with tank*	10	0	0
Farmer	7	10	6
Farmer-de-Luxe	8	2	6
Flame Gun No. 1	13	17	6
Flame Gun No. 2	14	15	0
Handy			
with Iron Wheel	25	5	0
with Solid Rubber Tyre	26	16	6
with Pneumatic Tyre	27	12	6
Kent No. 2	15	19	0
Kent No. 4	14	17	0
Kent No. 6	13	15	0
Knapsack No. 90	9	19	6

	£	s.	d.
Knapsack No. 101	14	0	0
Knapsack No. 102	14	17	6
Knapsack No. 103	16	12	6
Knapsack No. 501	16	16	0
Knapsack No. 501 *with Agitator*	17	18	0
Knapsack Battery *Prices on application*			
"Limespray", mechanized lime washer Electric motor or petrol engine — No. 1 10 gallon	89	10	0
No. 2 18 gallon	95	10	0
Little Giant			
with Iron Wheels	26	8	0
with Solid Rubber Tyres	27	18	6
with Pneumatic Tyres	31	1	6
Little Wonder	10	11	6
Maney Copper Container	1	18	6
Maney Brass Container	2	0	0
Maney No. 3	2	4	0
Maney No. 4	2	12	6
Maney-de-Luxe	2	9	6
Mobilizer Truck *for Kent No. 2*	3	17	6
New Ideal	3	15	6
New Ideal *complete with Tank*	10	12	6
Princess	2	13	6
Rochester	22	15	6
Ross	10	10	0
Ross *with Agitator*	11	12	0
Ross-de-Luxe	15	5	0
Ross-de-Luxe *with Agitator*	16	7	0
Rotadusto	11	11	0
Rotadusto extension piece		9	3
Southern Cross	9	1	6

[P.T.O.

Four Oaks Spraying Machine Co

Appendix 26B *Catalogue 1954. Price list side 2*

	£	s.	d.
Stafford			
with Iron Wheels	34	17	6
with Pneumatic Tyres ...	42	15	6
Stafford Junior			
with Iron Wheels	30	2	6
with Pneumatic Tyres ...	38	1	6
Stirrup Pump *with Nozzle* ...	2	10	0
Hose fitted per foot		1	0
Streetly	5	1	9
Streetly-de-Luxe	5	10	0
Triumph	12	7	6
Triumph			
with Automatic Agitator extra	1	7	6
Universal *complete*	17	0	0
Unspillable water carrier extra	3	11	6
Black Creosote Container extra	2	15	0
Grid for sacks, etc., extra ...	1	16	4
Victor No. 1 (6 *galls.*)			
with Iron Wheel	17	6	6
with Solid Rubber Tyre ...	18	17	6
with Pneumatic Tyre... ...	19	12	6
with Automatic Agitator extra	1	7	6
Victor No. 2 (12 *galls.*)			
with Iron Wheel	18	12	6
with Solid Rubber Tyre ...	20	3	6
with Pneumatic Tyre ...	20	19	6
with Automatic Agitator extra	1	7	6
Weeford...	21	17	6
White Ant Exterminator ...	10	3	6
White Ant Powder for use with above, per cwt., packed 2 lb. tins	12	16	0
Wizard	11	16	6
Wizard			
with Automatic Agitator extra	1	7	6
Yenton	5	4	6

BRASS SYRINGES

Syringes No. D.1		15	5
„ No. D.2		17	11
„ No. D.3	1	3	0
„ No. D.4	1	1	6
„ No. D.5	1	6	6
„ No. D.6	1	3	0
„ No. D.7	1	12	6
„ No. D.8	2	3	6
„ No. D.9	2	3	6
„ No. F.10	1	17	6
„ No. F.11	2	3	6
„ No. F.12	2	4	0
„ No. F.13	2	12	3
„ No. F.14	2	17	3
„ No. F.15	3	11	6
„ No. F.16	3	8	9

ACCESSORIES

Bamboo Lance, 4ft. 0in. ...	1	8	4
Bamboo Lance, 6ft. 0in. ...	2	6	9
Bamboo Lance, 8ft. 0in. ...	2	10	6
Bamboo Lance, 10ft. 6in. ...	2	15	6
Bamboo Lance, 15ft. 0in. ...	3	9	6
Brass Rod and Tap		16	6

	£	s.	d.
Bend No. 40		5	6
Connecting Union No. 82 ...		5	6
Constant Pressure Device No. 50	2	12	6
Cross Boom, No. 80, 12in. ...	1	2	0
Cross Boom, No. 81, 24in. ...	1	13	0
Cross Boom, No. 82, 36in. ...	1	18	6
Cross Boom, No. 83, 48in. ...	2	4	0
Dual Feed Boom, No. 88, 9ft.	5	12	6
Dual Feed Boom, No. 89, 11ft.	6	3	6
Extending Lance No. 37 ...	2	10	6
Fork Attachment No. 35 ...		13	3
Kent Boom (nozzles extra) ...	1	18	6
Lengthening Piece No. 42 ...		5	6
Lengthening Piece No. 42a ...		7	9
Lengthening Piece No. 42b ...		9	11
Moveable Angle Joint No. 43		11	0
Nozzle No. 10, Tee jet Fine ...		16	0
Nozzle No. 10, Tip & Filter only		8	6
Nozzle No. 20, Tee jet Medium		16	0
Nozzle No. 20, Tip & Filter only		8	6
Nozzle No. 30, Tee jet Coarse...		16	0
Nozzle No. 30, Tip & Filter only		8	6
Nozzle No. 51, 'Four Oaks' ...		8	0
Nozzle No. 68, 'Marvellous' ...		8	0
Nozzle, No. 69		9	9
Nozzle No. 71, 'Unchokable' ...		11	0
Nozzle, No. 83, 'Humidifier' ...		8	0
Nozzle No. 92, 'Woodford' ...		8	0
Nozzle No. 93, Single Swivel ...		10	6
Nozzle No. 94, Double Swivel		15	3
Side Boom No. 86, 24in. (nozzles extra)	1	13	0
Side Boom No. 87, 36in. (nozzles extra)	1	18	6
Strainer Rod No. S.R.		12	6
Strainer Rod No. T.R.L. ...		9	6
Trigger Release Lance	1	17	6
If purchased with machine in lieu of ordinary brass rod and tap	1	5	0
Tube Bend No. 41		5	0

HOSE

¼ in. Plain	per foot	2	6
¼ in. Armoured ...	per foot	2	10
⅜ in. Plain ...	per foot	2	0
⅜ in. Armoured ...	per foot	2	6
Unions for Hose ¼ in.	per pair	7	0
Unions for Hose ⅜ in.	per pair	6	0

SPARE PARTS BOXES

(Containing washers, cup, leathers, etc.)

Box A ... 4/9		Box K.4 ...	9/9
Box B ... 5/6		Box K.6 ...	9/9
Box C ... 8/-		Box L ...	9/9
Box D ... 9/9		Box N ...	5/6
Box E ... 9/9		Box O ...	5/6
Box F ... 10/6		Box R ...	5/6
Box G ... 5/6		Box S ...	13/-
Box H ... 9/9		Box W ...	9/9
Box J.1 ... 8/-		Box Z.1 ...	7/6
Box J.2 ... 8/-		Box Z.2 ...	7/6
Box K.2 ... 9/9			

PRICES SUBJECT TO ALTERATION WITHOUT NOTICE

THE FOUR OAKS SPRAYING MACHINE CO LTD

FOUR OAKS · BIRMINGHAM

Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

Four Oaks Spraying Machine Co

Appendix 27A - *Typical Products Catalogue 1965 - Models and Prices from the Typical Products Catalogue*

Page No.	Model	Price	Spare Part Outfit
3	FARMER DE LUX	£9.18.6	A- £0.6.0
3	WIZARD	£14.6.3	B - £0.8.9
3	(Agitator extra)	£1.13.3	
4	TRIUMPH	£14.19.6	B - £0.7.3
4	ATTACHABLE 1	£17.6.0	J1 - £0.10.0
4	ATTACHABLE 2	£21.8.09	J2 - £0.10.0
5	VICTOR No. 1. Iron Wheels	£20.19.3	B - £0.7.3
5	VICTOR No. 1. Solid Rubber	£22.16.9	B - £0.7.3
5	VICTOR No. 1. Pneumatic	£23.15.0	B - £0.7.3
5	VICTOR No. 2. Iron Wheels	£22.10.9	B - £0.7.3
5	VICTOR No. 2. Solid Rubber	£24.8.06	B - £0.7.3
5	VICTOR No. 2. Pneumatic	£25.7.6	B - £0.7.3
5	(Agitator extra)	£1.13.3	
5	BRIDGWATER No. 1. Iron	£48.8.0	D - £0.12.0
5	BRIDGWATER No. 1. Pneumatic	£58.1.6	D - £0.12.0
5	BRIDGWATER No. 2. Iron	£64.2.6	D - £0.12.0
5	BRIDGWATER No. 2. Pneumatic	£73.16.3	D - £0.12.0
6	KNAPSACK 90	£13.17.6	K1 - £0.19.9
6	KNAPSACK 91		
6	KNAPSACK 92		
7	KENT No. 2	£19.06.0	K2 - £0.12.0
7	KENT No. 4	£17.19.6	K4 - £0.12.0
7	KENT No. 6	£19.14.3	K6 - £0.12.0
8	ROSS	£13.14.0	W- £0.12.0
8	(Agitator extra)	£1.6.9	
8	ROSS DE LUXE		
9	KNAPSACK 101	£16.18.9	H - £0.12.0
9	KNAPSACK 102	£18.0.6	H - £0.12.0
9	KNAPSACK 103	£21.2.3	H - £0.12.0
10	EXCELSIOR	£4.15.3	
11	KNAPSACK 600	£6.19.9	
11	KNAPSACK 600 brass	£12.2.0	
11	KNAPSACK 501	£21.6.9	S - £1.0.0
11	(Agitator extra)	£1.6.9	
11	ROTODUSTO	£18.6.9	
14	Extension	£0.11.3	
12	MANEY DE LUXE	£3.6.6	
12	MANEY No. 4	£3.17.6	
12	CHELSEA	£5.17.6	
12	STREETLEY	£6.3.3	
12	STREETLEY DE LUX	£6.13.0	
16	LIMESPRAY Electric	£105.0.0	
14	POPULAR	£86.10.0	
15	SENIOR	£98.10.0	

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Four Oaks Spraying Machine Co

Appendix 27B - *Typical Products Catalogue 1965 - Models and Prices from the Typical Products Catalogue*

Page No.	Model	Price	Spare Part Outfit
19	Nozzle 51	£0.9.9	
19	Nozzle 71	£0.13.6	
19	Nozzle 92 WOODFORD	£0.9.9	
19	Nozzle 83 HUMIDIFIERRD	£0.9.9	
19	T JET 10/20/30	£0.19.6	
19	MARVELLOUS 68	£0.9.9	
19	Nozzle 69	£0.11.9	
19	Tube Bend 41 (12 inch)	£0.6.0	
19	Lengthening Piece 42	£0.6.6	
19	Lengthening Piece 42a	£0.9.3	
19	Lengthening Piece 42b	£0.12.0	
19	Fork attachment 35	£0.16.0	
19	Light Weight Trigger	£1.4.6	
19	Heavy Duty Trigger	£2.5.6	
24	Lance with Tap	£1.0.0	
24	Bamboo Lances 4ft	£1.4.3	
24	Bamboo Lances 6ft 6in	£2.16.6	
24	Bamboo Lances 8ft	£3.1.0	
24	Bamboo Lances 10ft 6in	£3.7.0	
24	Bamboo Lances 15ft	£4.8.0	
24	Swivel Nozzle No. 94	£0.18.6	
24	Connecting Union No. 82	£0.6.6	

Four Oaks Spraying Machine Co

Appendix 28 - *Country Gentlemen's Association Price Book 1959*

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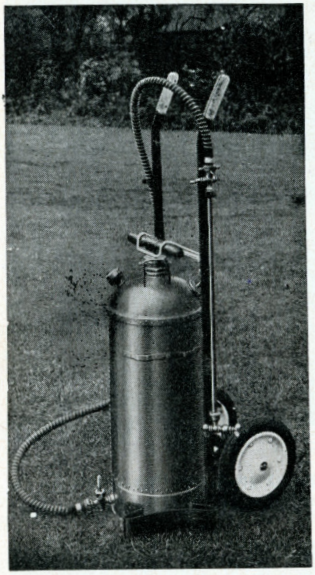
SPECIALISED SPRAYING EQUIPMENT



The "KENT" No. 2 Pneumatic KNAPSACK SPRAYER

FOUR OAKS SPRAYERS

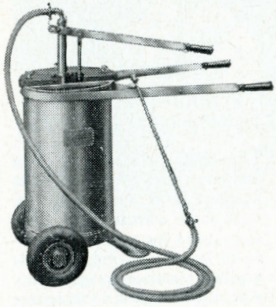
Supplied with or without MOBILIZER TRUCK. The machine can be instantly attached by one simple clip giving easy, comfortable spraying—standing or walking. A special spray boom is also available for selective weed killing and other purposes. Machine only, £15 19 0. Mobilizer Truck, £3 17 6.

The Four Oaks "FARMER"

A popular bucket type machine, £7 10 6.

A fully illustrated, sectional catalogue of all types of spraying equipment is available on request.

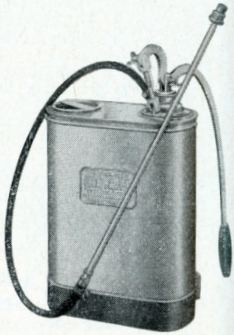
The Four Oaks LITTLE GIANT



With automatic agitator. One of our wheeled machines. Capacity 12 gallons. Iron or pneumatic tyred wheels from £26 8 0.

The Four Oaks KNAPSACK SPRAYERS

3½ galls. capacity. No. 101 Copper container £14 0 0. No. 192. Tinned Brass container £14 17 6. No. 103. Lead coated container, £16 12 6.



THE FOUR OAKS SPRAYING MACHINE CO. LTD.

Four Oaks Spraying Machine Co

Appendix 28 - *Country Gentlemen's Association Price Book 1959*

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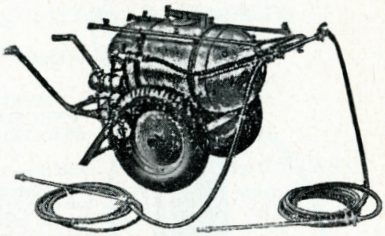
FOUR OAKS SPRAYERS

MECHANISED SPRAYERS

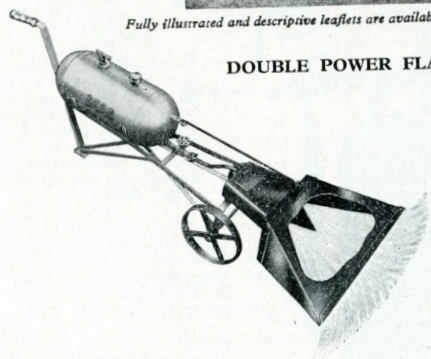
The "POPULAR"
A machine specially designed for use in the average garden for general spraying, selective weed-killing on lawns, for the rose garden and orchard. Narrow width enables it to be used on paths, grass verges and drives. 6-gallon tank. £69 10 0.

The "SENIOR"
15-gallon container. With both models the spray bars are carried on the tank when not in use. £89 10 0.



The "SELF-PROPELLED"
A 25-gallon machine with horizontal spray bar and lances. Requires no effort —you simply guide. Ideal for your lawns, drives, fruit and row crops.
£135 0 0.

Fully illustrated and descriptive leaflets are available on request.



DOUBLE POWER FLAME GUNS

"TWIN JET"
The power of two Flame Guns—for the weight and price of one. "Twin Jet" with hood as illustrated £18 18 6
Other models from £7 17 6
Write for Flame Gun Leaflet.

THE FOUR OAKS SPRAYING MACHINE CO. LTD.

Four Oaks Spraying Machine Co

Appendix 29

Below :- KENT. With Truck. 1971.

Four Oaks

'KENT' PNEUMATIC KNAPSACK

The Kent Pneumatic Sprayer, Knapsack or Trolley, made of best quality brass, riveted joints. Designed to give trouble free service and the smooth continuous spraying, expected from a first class pressure Sprayer.

The 2 feet lance and control valve are standard. Extension arm, boom and the useful trolley are additional fittings that make all units most adaptable for all agricultural applications, including insecticides, plant foods, weed killers, creosote or just watering.

Industry uses Kent for rust inhibitors, curing oils, mould oils and degreasants. Creosote.

Four Oaks Spraying Machine Co

Appendix 29

Below :- KENT. With Truck. 1971.

KENT No 2, KENT No 4 and KENT No 6

Pneumatic Knapsack Sprayers

INSTRUCTIONS

Hoses and lance are connected by cap and liner K.3.
Adjust shoulder strap to suit operator K. 24
Check all joints and that washers are fitted.
Check that fluid is free running. No particles
that can clog valves or nozzles.
See that container is clean.
Remove filler plug K.2 A, insert strainer tundish K. 26.
(as supplied).
Filler container to correct height approx. 75% of volume.
Do not overfill.
Replace filler cap K.2A and tighten.
Shut off outlet K. 10.
Take a few pumps (long not short).
Test for leaks.
Pump till pressure reads 75 P S I on gauge.
Lock pump handle with wire clip K. 21.
Your KENT is now ready to use.

MAINTENANCE

Protect from frost, oil cup leathers frequently.
i.e. Remove part K. 22 and oil.
Always wash out when storing, and after use.
All machines are tested before leaving the factory.
And are backed by our usual guarantee.

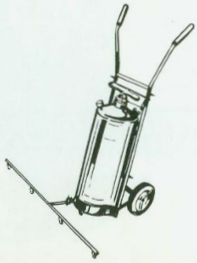
The machines are suitable for most chemicals including Liver of Sulphur and Lime Sulphur. Also Creosote, Paraffin, etc., but not Sulphuric.

Trolley, has many other uses as well as boom spraying.

Accessories

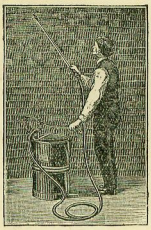
4 Jet Boom

Extension Arm



Four Oaks Spraying Machine Co

Appendix 30 - *1923 - Letter*



TELEPHONE
No. 305 SUTTON COLDFIELD.
TELEGRAMS:
"SPRAYERS, FOUR OAKS"

COPYRIGHT REGISTERED TRADE MARK THE FOUR OAKS

FOUR OAKS SPRAYERS HAVE BEEN AWARDED OVER 60 GOLD AND SILVER MEDALS.

The Four Oaks Spraying Machine Co.

W. C. G. LUDFORD PROPRIETOR.

MANUFACTURERS OF

SPRAYING, LIMEWASHING & DISINFECTING MACHINES & PUMPS.
GARDEN SYRINGES. SPRAYING SYRINGES & GENERAL
HORTICULTURAL BRASSFOUNDRY.

YOUR REF.
OUR REF. WCGL

FOUR OAKS, SUTTON COLDFIELD.
NEAR BIRMINGHAM.

Messrs City Combing Co.,
Bradford,
Yorks.

April 12th 1923.

Dear Sir,

Are you doing your limewashing in the old fashioned way with brushes? If so, can we persuade you to try our FOUR OAKS method which saves 90% of the labour bill - a serious item in these days - does the work far better than it could ever be done with a brush, and in one tenth the time. See Catalogue enclosed.

With a FOUR OAKS Machine 500 sq. ft. can be easily limewashed in 10 minutes without splashing or inconvenience, and no scaffolding being necessary the risk of accidents is reduced. Also the material being applied as a spray by a powerful pump is driven into cracks and crevices where disease and insect pests breed and where no brush could ever reach. The Government Factory Inspectors strongly recommend limewashing by Spraying Machines.

In these days of expensive labour they will save their entire cost several times over the first time of using.

Considerable use could also be made of the Sprayers in other directions such for example as the washing down of Vans, Motor Lorries, windows, disinfecting, and for use as temporary Fire Extinguishers.

As an instance of their great value we should like to mention the case of a Manufacturer who called on us a short time ago:-

He was quoted £45. for limewashing his Factory, but purchased a machine from us. Two of his men did the entire work for about £12. including the full cost of the machine (which was about £5.) labour and limewash. He saved £30. on the job after the full cost of purchasing the machine was included.

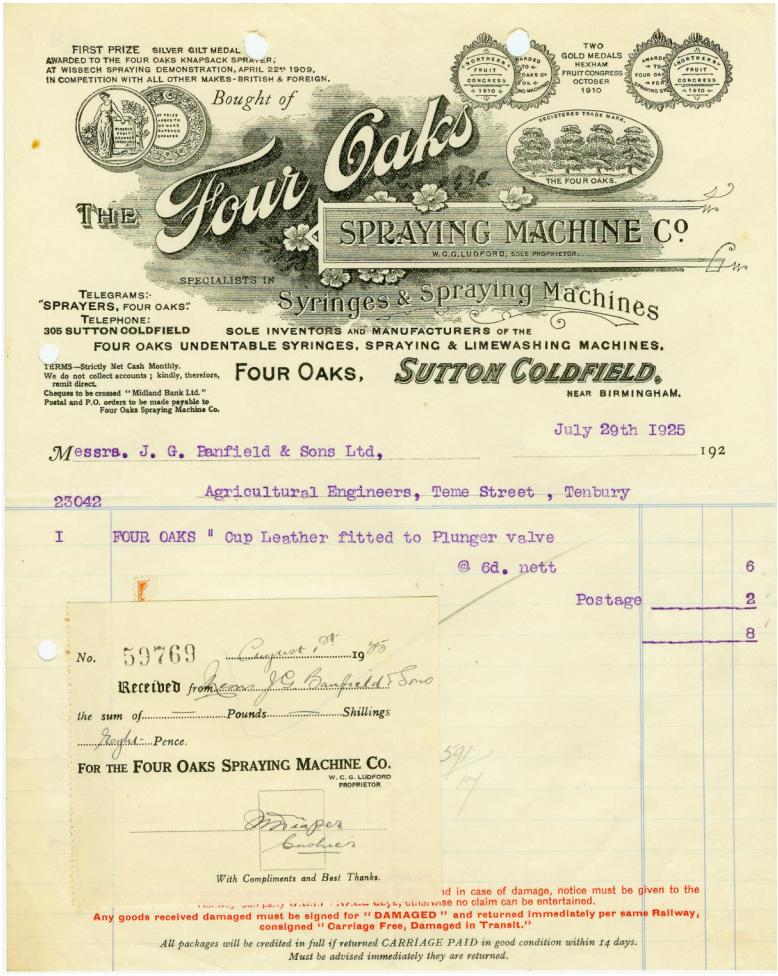
If you will send cash with order we will pay the carriage to your address, and we can despatch the same day your order is received. Any labourer can use the machine which is perfectly simple.

Yours truly,
The FOUR OAKS Spraying Machine Co.

Wm. G. G. Ludford
Proprietor

Four Oaks Spraying Machine Co

Appendix 31 - *1925 Invoice*



FIRST PRIZE SILVER GILT MEDAL
AWARDED TO THE FOUR OAKS KNAPSACK SPRAYER;
AT WISBECH SPRAYING DEMONSTRATION, APRIL 22nd 1909.
IN COMPETITION WITH ALL OTHER MAKES - BRITISH & FOREIGN.

TWO GOLD MEDALS HEXHAM FRUIT CONGRESS OCTOBER 1910

Bought of

THE Four Oaks SPRAYING MACHINE Co

W. C. G. LUDFORD, SOLE PROPRIETOR.

THE FOUR OAKS

SPECIALISTS IN Syringes & Spraying Machines

TELEGRAMS: "SPRAYERS, FOUR OAKS"
TELEPHONE: 305 SUTTON COLDFIELD

SOLE INVENTORS AND MANUFACTURERS OF THE FOUR OAKS UNDENTABLE SYRINGES, SPRAYING & LIMEWASHING MACHINES.

TERMS—Strictly Net Cash Monthly.
We do not collect accounts; kindly, therefore, remit direct.
Cheques to be crossed "Midland Bank Ltd."
Postal and P.O. orders to be made payable to Four Oaks Spraying Machine Co.

FOUR OAKS, SUTTON COLDFIELD, NEAR BIRMINGHAM.

July 29th 1925

Messrs. J. G. Banfield & Sons Ltd, 192

23042 Agricultural Engineers, Teme Street, Tenbury

I	FOUR OAKS " Cup Leather fitted to Plunger valve		
		@ 6d. nett	6
		Postage	2
			8

No. 59769 August 1st 1925

Received from J. G. Banfield & Sons

the sum of ____ Pounds ____ Shillings

Eight Pence.

FOR THE FOUR OAKS SPRAYING MACHINE CO.
W. C. G. LUDFORD PROPRIETOR

Draper Cashier

With Compliments and Best Thanks.

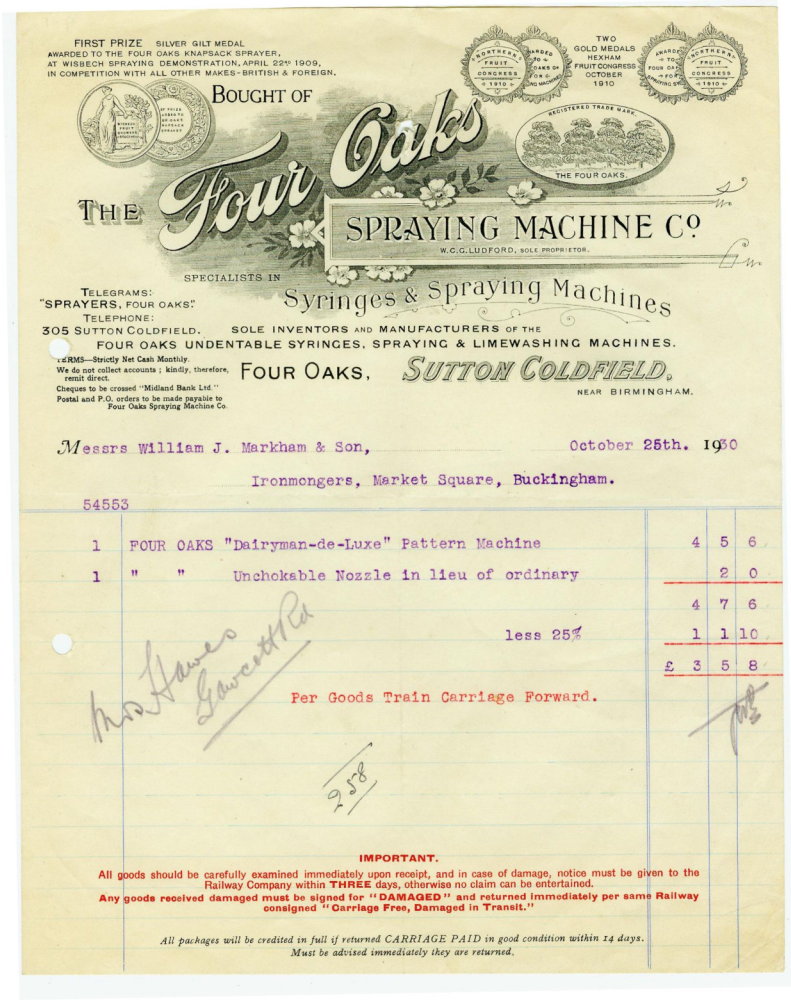
...d in case of damage, notice must be given to the ... otherwise no claim can be entertained.

Any goods received damaged must be signed for "DAMAGED" and returned immediately per same Railway, consigned "Carriage Free, Damaged in Transit."

All packages will be credited in full if returned CARRIAGE PAID in good condition within 14 days.
Must be advised immediately they are returned.

Four Oaks Spraying Machine Co

Appendix 32- *1930 Invoice*



FIRST PRIZE SILVER GILT MEDAL
AWARDED TO THE FOUR OAKS KNAPSACK SPRAYER,
AT WISBECH SPRAYING DEMONSTRATION, APRIL 22nd 1909,
IN COMPETITION WITH ALL OTHER MAKES-BRITISH & FOREIGN.

TWO GOLD MEDALS HEXHAM FRUIT CONGRESS OCTOBER 1910

BOUGHT OF

THE Four Oaks SPRAYING MACHINE Co

REGISTERED TRADE MARK. THE FOUR OAKS.

W.C.G. LUDFORD, SOLE PROPRIETOR.

SPECIALISTS IN Syringes & Spraying Machines

TELEGRAMS: "SPRAYERS, FOUR OAKS."
TELEPHONE: 305 SUTTON COLDFIELD.

SOLE INVENTORS AND MANUFACTURERS OF THE FOUR OAKS UNDENTABLE SYRINGES, SPRAYING & LIMEWASHING MACHINES.

TERMS—Strictly Net Cash Monthly.
We do not collect accounts; kindly, therefore, remit direct.
Cheques to be crossed "Midland Bank Ltd."
Postal and P.O. orders to be made payable to Four Oaks Spraying Machine Co.

FOUR OAKS, SUTTON COLDFIELD, NEAR BIRMINGHAM.

Messrs William J. Markham & Son, October 25th. 1930

Ironmongers, Market Square, Buckingham.

54553

1	FOUR OAKS "Dairyman-de-Luxe" Pattern Machine	4	5	6
1	" " Unchokable Nozzle in lieu of ordinary		2	0
		4	7	6
	less 25%	1	1	10
		£ 3	5	8

Per Goods Train Carriage Forward.

2.58

IMPORTANT.

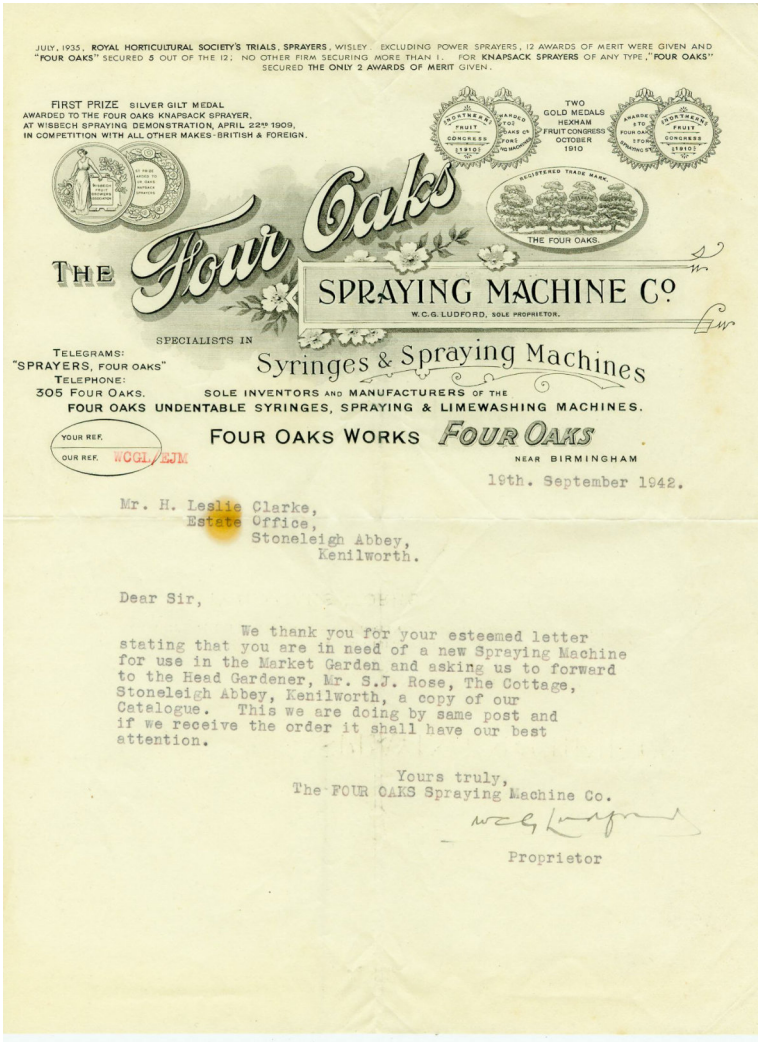
All goods should be carefully examined immediately upon receipt, and in case of damage, notice must be given to the Railway Company within **THREE** days, otherwise no claim can be entertained.

Any goods received damaged must be signed for "DAMAGED" and returned immediately per same Railway consigned "Carriage Free, Damaged in Transit."

All packages will be credited in full if returned CARRIAGE PAID in good condition within 14 days. Must be advised immediately they are returned.

Four Oaks Spraying Machine Co

Appendix 33 - *1942 Letter This came with a copy of Catalogue 35A*



JULY, 1935. ROYAL HORTICULTURAL SOCIETY'S TRIALS, SPRAYERS, WISLEY. EXCLUDING POWER SPRAYERS, 12 AWARDS OF MERIT WERE GIVEN AND "FOUR OAKS" SECURED 5 OUT OF THE 12; NO OTHER FIRM SECURING MORE THAN 1. FOR KNAPSACK SPRAYERS OF ANY TYPE, "FOUR OAKS" SECURED THE ONLY 2 AWARDS OF MERIT GIVEN.

FIRST PRIZE SILVER GILT MEDAL
AWARDED TO THE FOUR OAKS KNAPSACK SPRAYER,
AT WISBECH SPRAYING DEMONSTRATION, APRIL 22nd 1909,
IN COMPETITION WITH ALL OTHER MAKES-BRITISH & FOREIGN.

TWO GOLD MEDALS HEXHAM FRUIT CONGRESS OCTOBER 1910

REGISTERED TRADE MARK.
THE FOUR OAKS.

THE Four Oaks SPRAYING MACHINE Co
W.C.G. LUDFORD, SOLE PROPRIETOR.

SPECIALISTS IN
Syringes & Spraying Machines

TELEGRAMS:
"SPRAYERS, FOUR OAKS"
TELEPHONE:
305 FOUR OAKS.

SOLE INVENTORS AND MANUFACTURERS OF THE
FOUR OAKS UNDENTABLE SYRINGES, SPRAYING & LIMEWASHING MACHINES.

YOUR REF.
OUR REF. WCGL/EJM

FOUR OAKS WORKS FOUR OAKS
NEAR BIRMINGHAM

19th. September 1942.

Mr. H. Leslie Clarke,
Estate Office,
Stoneleigh Abbey,
Kenilworth.

Dear Sir,

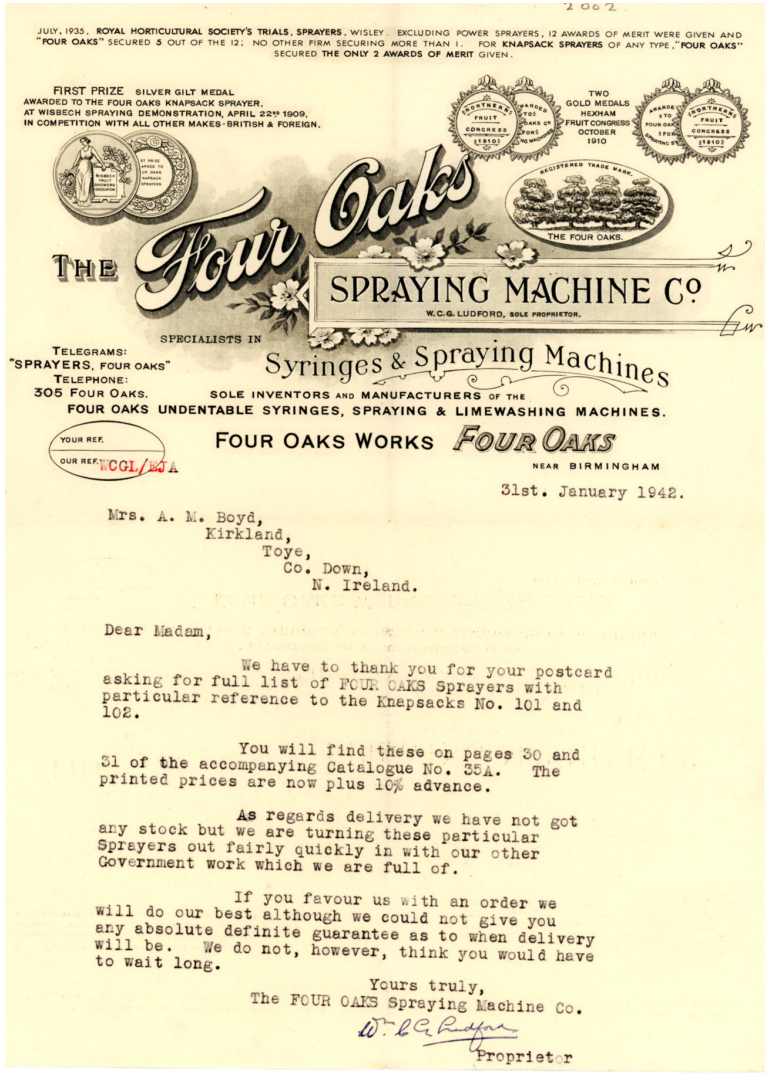
We thank you for your esteemed letter stating that you are in need of a new Spraying Machine for use in the Market Garden and asking us to forward to the Head Gardener, Mr. S.J. Rose, The Cottage, Stoneleigh Abbey, Kenilworth, a copy of our Catalogue. This we are doing by same post and if we receive the order it shall have our best attention.

Yours truly,
The FOUR OAKS Spraying Machine Co.

Proprietor

Four Oaks Spraying Machine Co

Appendix 34 [E6] - *1942 Letter This came with a copy of Catalogue 35A*



2882

JULY, 1935, ROYAL HORTICULTURAL SOCIETY'S TRIALS, SPRAYERS, WISLEY. EXCLUDING POWER SPRAYERS, 12 AWARDS OF MERIT WERE GIVEN AND "FOUR OAKS" SECURED 5 OUT OF THE 12; NO OTHER FIRM SECURING MORE THAN 1. FOR KNAPSACK SPRAYERS OF ANY TYPE, "FOUR OAKS" SECURED THE ONLY 2 AWARDS OF MERIT GIVEN.

FIRST PRIZE SILVER GILT MEDAL
AWARDED TO THE FOUR OAKS KNAPSACK SPRAYER,
AT WISBECH SPRAYING DEMONSTRATION, APRIL 22nd 1909,
IN COMPETITION WITH ALL OTHER MAKES-BRITISH & FOREIGN.

TWO GOLD MEDALS HEXHAM FRUIT CONGRESS OCTOBER 1910

THE FOUR OAKS SPRAYING MACHINE Co
W.C.G. LUDFORD, SOLE PROPRIETOR.

SPECIALISTS IN Syringes & Spraying Machines

TELEGRAMS: "SPRAYERS, FOUR OAKS"
TELEPHONE: 305 FOUR OAKS.

SOLE INVENTORS AND MANUFACTURERS OF THE
FOUR OAKS UNDENTABLE SYRINGES, SPRAYING & LIMEWASHING MACHINES.

YOUR REF.
OUR REF. WCGL/EJA

FOUR OAKS WORKS FOUR OAKS NEAR BIRMINGHAM

31st. January 1942.

Mrs. A. M. Boyd,
Kirkland,
Toye,
Co. Down,
N. Ireland.

Dear Madam,

We have to thank you for your postcard asking for full list of FOUR OAKS Sprayers with particular reference to the Knapsacks No. 101 and 102.

You will find these on pages 30 and 31 of the accompanying Catalogue No. 35A. The printed prices are now plus 10% advance.

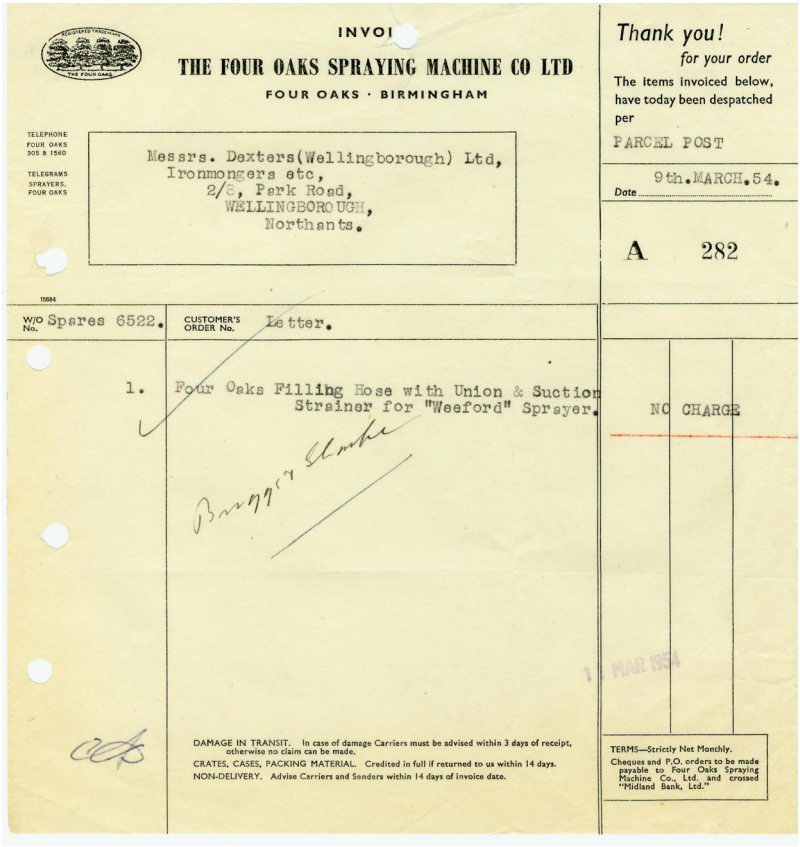
As regards delivery we have not got any stock but we are turning these particular Sprayers out fairly quickly in with our other Government work which we are full of.

If you favour us with an order we will do our best although we could not give you any absolute definite guarantee as to when delivery will be. We do not, however, think you would have to wait long.

Yours truly,
The FOUR OAKS Spraying Machine Co.
W. C. G. Ludford
Proprietor

Four Oaks Spraying Machine Co

Appendix 35 - *1954 Invoice*



INVOI

THE FOUR OAKS SPRAYING MACHINE CO LTD

FOUR OAKS · BIRMINGHAM

TELEPHONE FOUR OAKS 305 & 1560

TELEGRAMS SPRAYERS, FOUR OAKS

Messrs. Dexters(Wellingborough) Ltd,
Ironmongers etc,
2/8, Park Road,
WELLINGBOROUGH,
Northants.

Thank you!
for your order

The items invoiced below, have today been despatched per

PARCEL POST

Date 9th.MARCH.54.

A 282

15984

W/O No. Spares 6522.

CUSTOMER'S ORDER No. Letter.

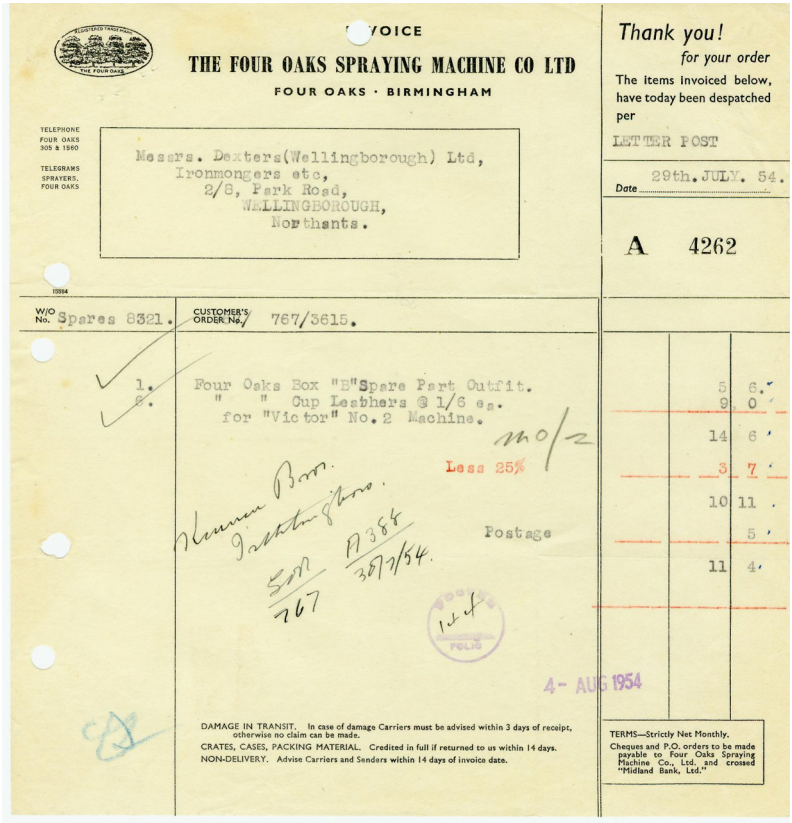
1. Four Oaks Filling Hose with Union & Suction Strainer for "Weeford" Sprayer. NO CHARGE

DAMAGE IN TRANSIT. In case of damage Carriers must be advised within 3 days of receipt, otherwise no claim can be made.
CRATES, CASES, PACKING MATERIAL. Credited in full if returned to us within 14 days.
NON-DELIVERY. Advise Carriers and Senders within 14 days of invoice date.

TERMS—Strictly Net Monthly.
Cheques and P.O. orders to be made payable to Four Oaks Spraying Machine Co., Ltd. and crossed "Midland Bank, Ltd."

Four Oaks Spraying Machine Co

Appendix 36 - *1954 Invoice*



INVOICE

THE FOUR OAKS SPRAYING MACHINE CO LTD

FOUR OAKS · BIRMINGHAM

TELEPHONE FOUR OAKS 305 & 1560

TELEGRAMS SPRAYERS, FOUR OAKS

Messrs. Dexters(Wellingborough) Ltd,
Ironmongers etc,
2/8, Park Road,
WELLINGBOROUGH,
Northants.

Thank you! for your order

The items invoiced below, have today been despatched per

LETTER POST

Date 29th.JULY. 54.

A 4262

W/O No. Spares 8321.

CUSTOMER'S ORDER No. 767/3615.

1.	Four Oaks Box "E"Spare Part Outfit.	5	6.
6.	" " Cup Leathers @ 1/6 ea.	9	0
	for "Victor" No. 2 Machine.	14	6
	Less 25%	3	7
		10	11
	Postage		5
		11	4

4- AUG 1954

DAMAGE IN TRANSIT. In case of damage Carriers must be advised within 3 days of receipt, otherwise no claim can be made.

CRATES, CASES, PACKING MATERIAL. Credited in full if returned to us within 14 days.

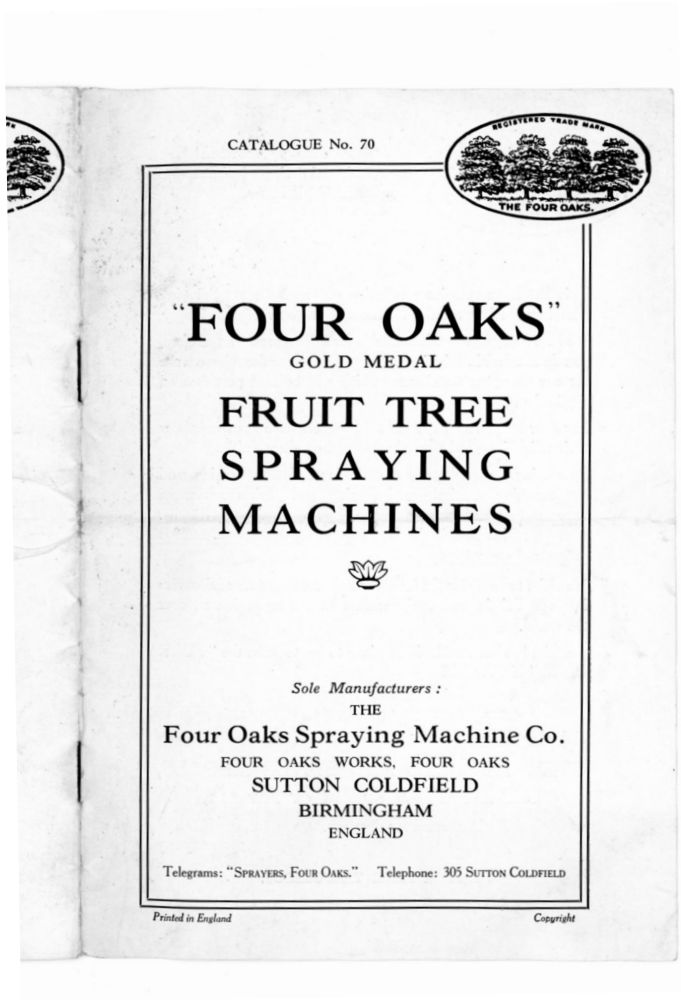
NON-DELIVERY. Advise Carriers and Senders within 14 days of invoice date.

TERMS—Strictly Net Monthly.

Cheques and P.O. orders to be made payable to Four Oaks Spraying Machine Co., Ltd. and crossed "Midland Bank, Ltd."

Four Oaks Spraying Machine Co

Appendix 37A Catalogue 70 - Fruit Tree Spraying Machines.
Front page. Based on prices thought to date to about 1927.



CATALOGUE No. 70

REGISTERED TRADE MARK
THE FOUR OAKS.

"FOUR OAKS"
GOLD MEDAL

FRUIT TREE
SPRAYING
MACHINES

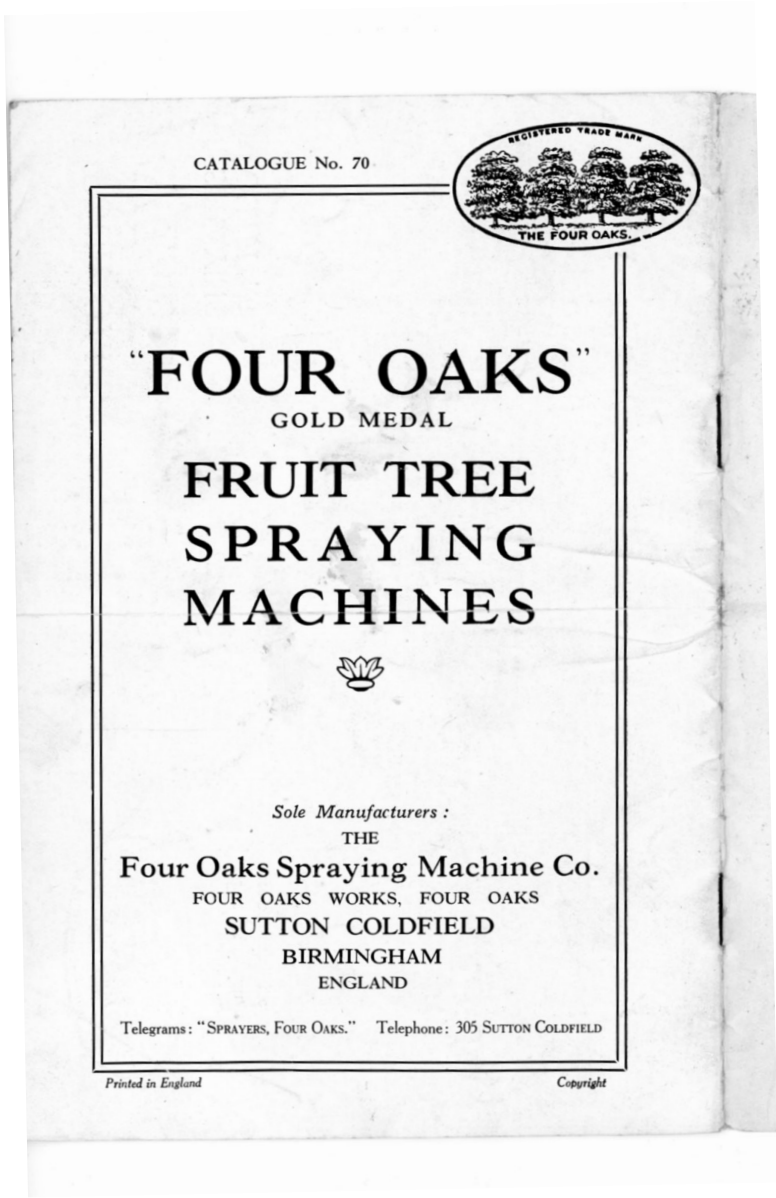
Sole Manufacturers :
THE
Four Oaks Spraying Machine Co.
FOUR OAKS WORKS, FOUR OAKS
SUTTON COLDFIELD
BIRMINGHAM
ENGLAND

Telegrams: "Sprayers, Four Oaks." Telephone: 305 Sutton Coldfield

Printed in England *Copyright*

Four Oaks Spraying Machine Co

Appendix 37A Catalogue 70 - Fruit Tree Spraying Machines. Back page. Based on prices thought to date to about 1927.



CATALOGUE No. 70

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THE FOUR OAKS.

"FOUR OAKS"
GOLD MEDAL
FRUIT TREE
SPRAYING
MACHINES

Sole Manufacturers :
THE
Four Oaks Spraying Machine Co.
FOUR OAKS WORKS, FOUR OAKS
SUTTON COLDFIELD
BIRMINGHAM
ENGLAND

Telegrams: "Sprayers, Four Oaks." Telephone: 305 Sutton Coldfield

Printed in England *Copyright*

Four Oaks Spraying Machine Co

Appendix 37B Catalogue 70 - Fruit Tree Spraying Machines.
Pages 1 and 2 . Based on prices thought to date to about 1927.

THE TRADE MARK
which carries with it a Guarantee of
RELIABILITY AND QUALITY.

This Catalogue contains a selection of "Four Oaks" Spraying Machines specially suitable for the up-to-date Fruit Grower.

We have many more models suitable for all purposes. If, therefore, you do not find in this list exactly what you require, please write for our Complete Catalogues, which will be sent post free on application.

For over 30 years "Four Oaks" Sprayers have been noted for their reliability, good workmanship and excellent finish.

By making a special study of Spraying and Limewashing, and by consulting practical horticulturists and fruit growers, we have been enabled, as manufacturers, to attain the best results. Every machine in this list is always in stock, and despatch is guaranteed per return.

We claim to be by far the largest actual manufacturers of Sprayers in Great Britain, and our machines have a reputation all over the world.

Our aim has been, and will continue to be, to make the "FOUR OAKS" SPRAYERS

THE BEST IN THE WORLD

and they have achieved the proud distinction of obtaining

OVER 100 GOLD AND SILVER MEDALS, SILVER CUPS and other Awards,

which is a World's record for Sprayers.

BRITISH MADE THROUGHOUT.

2

Four Oaks Spraying Machine Co

Appendix 37B Catalogue 70 - Fruit Tree Spraying Machines. Pages 1 and 2. Based on prices thought to date to about 1927

"FOUR OAKS" GOLD MEDAL

LIMEWASHING, DISINFECTING AND FRUIT TREE SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The special feature of this machine is that the Pump can be instantly removed from container.

The Container being oak, this machine can be used for Fruit Tree Spraying with any kind of washes.

A Machine we can thoroughly recommend.

The "Conqueror" Pattern (Registered)

Superior Machine, 10-gallon Oak Container, with powerful Lever Pump and Agitator.

Complete with 12ft. of I.R. Tubing, Brass Tube Spraying Arm, Strainer, one Nozzle for Limewashing and one for Fruit Tree Spraying, which also forms straight jet.

£15 0 0

"SOMERSET" PATTERN

As above, but without carriage—side handles only for carrying.

£12 10 0

Spare parts outfits for "Somerset" or "Conqueror," Box C, 4/6 extra.

For particulars of long lances, patent unchokable nozzle, and other useful accessories, see page 13.

3

Four Oaks Spraying Machine Co

Appendix 37C Catalogue 70 - Fruit Tree Spraying Machines.
Pages 3 and 4. Based on prices thought to date to about 1927.

"FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND FRUIT TREE SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Challenger" Pattern

(Registered)

Specially designed for use between narrow rows in fruit plantations or narrow gangways in works. Easy working pump, which, with fittings, can be instantly removed from container.

Automatic Agitator.

Capacity 12 gallons.

PRICE.

Complete with 15 ft. best Armoured Hose, Brass Spraying Arm, Strainer, and two nozzles one for spraying (which also forms straight jet for washing), and one for limewashing.

Spare parts outfit for this machine, Box E, 5/6 extra.
For particulars of patent unchokable nozzle, long lances, bends and other useful accessories, see page 13.

£15 10 0

4

Four Oaks Spraying Machine Co

Appendix 37C Catalogue 70 - Fruit Tree Spraying Machines.
Pages 3 and 4. Based on prices thought to date to about 1927.

'FOUR OAKS" GOLD MEDAL
LIMEWASHING, DISINFECTING AND FRUIT TREE SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" Gold Medal "Bridgwater" Pattern

The special feature of this pump is that the pump bucket works entirely outside the liquid.

This Machine secured "Tropical Life" Gold Medal at the International Rubber Exhibition, London, in competition with other makes.

This Machine can be supplied with two lengths of hose and two sets of spraying fittings at **37/6** extra, so that two men can be spraying at same time.

Superior machine made in very best style throughout.

We can thoroughly recommend this Machine to Fruit Growers who require a really good Machine.

This high-class machine consists of an 18-gallon Galvanized Tank with powerful Brass Pump, Agitator, 15ft. of 3-ply best quality Armoured Hose, Brass Tube with tap, special Spraying Nozzle for Limewash, also Nozzle for Fruit Tree Spraying, and a Plain Jet for Washing with water, Strainer, etc.

£17 10 0 Spare parts outfit for "Bridgwater" machine, Box D, **5/6** extra.

"BRIDGWATER-DE-LUXE" PATTERN

We can now offer the above machine in a 30-gallon Container, and with a much more powerful pump **£25 17 6**

For useful extra accessories, lances, nozzles, etc., see page 13.

Spare parts outfit for "Bridgwater-de-Luxe," Box F, **6/-** extra.

5

Four Oaks Spraying Machine Co

Appendix 37D Catalogue 70 - Fruit Tree Spraying Machines.
Pages 5 and 6. Based on prices thought to date to about 1927.

"FOUR OAKS" GOLD MEDAL

LIMEWASHING, DISINFECTING AND FRUIT TREE SPRAYING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

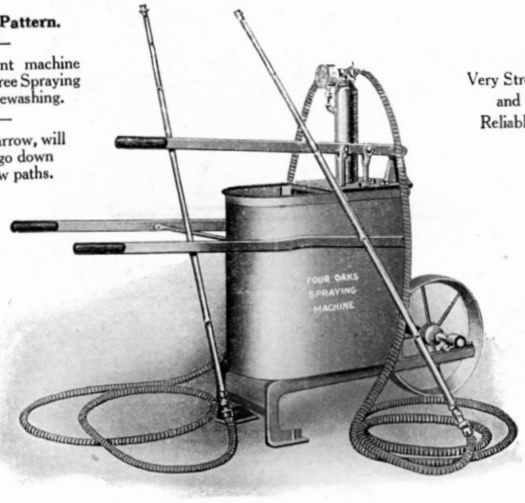
The "ELY" Narrow Gauge Spraying & Limewashing Machine.

A very substantial Narrow Gauge Machine, specially designed to meet the requirements of those who have difficulty in getting a wide machine into their plantations. Having only one wheel, and **extreme width being only 12 inches,** it will go into the most closely-grown plantations. Most powerful Brass Pump, and highly efficient Agitator. Galvanized Container

"Ely" Pattern.

An excellent machine for Fruit Tree Spraying and Limewashing.

Being narrow, will easily go down narrow paths.



Very Strong and Reliable.

PRICES.

18-gallon Machine.—With one 15ft. length of Armoured Hose, short Brass Rod, with Stopcock, Spraying Nozzle, etc. ...	£20 17 6
Ditto ditto with two 15ft. lengths of Hose and Fittings ...	£22 15 0
Extra for Pressure Gauge if required	£ 1 10 0

Spare parts outfit for this machine, Box F, 6/- extra.

For special accessories, nozzles, bends, lances, etc., see page 13.

6

Four Oaks Spraying Machine Co

Appendix 37D Catalogue 70 - Fruit Tree Spraying Machines.
Pages 5 and 6. Based on prices thought to date to about 1927.

"FOUR OAKS" GOLD MEDAL
FRUIT TREE SPRAYING AND LIMEWASHING MACHINE.

REGISTERED TRADE MARK
THE FOUR OAKS.

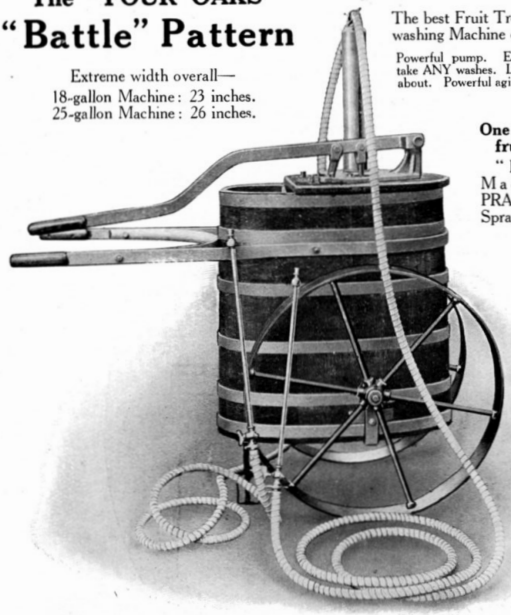
The "FOUR OAKS"
"Battle" Pattern

Extreme width overall—
18-gallon Machine: 23 inches.
25-gallon Machine: 26 inches.

The best Fruit Tree Spraying and Limewashing Machine on the Market.

Powerful pump. Elliptical oak container will take ANY washes. Large wheels. Easily moved about. Powerful agitator.

One of England's leading fruit growers writes:
"I consider your 'Battle' Machine the only PRACTICAL Fruit Tree Sprayer I have yet seen."



PRICES.

18-gallon Elliptical Oak Container, 24in. Wrought-iron Wheels, 2¼in. Brass Pump, one 15ft. length of best quality Armoured Hose, Short Brass Rod, Spraying Nozzle, etc.	£24 17 6
25-gallon Machine ditto, with 2¾in. Brass Pump and 30in. Wheels	£30 0 0
EXTRAS—	
If two 15ft. lengths of Armoured Hose and Fittings	£ 1 17 6
If fitted with Pressure Gauge	£ 1 10 0

Spare parts outfit for 18 gal. machine, Box D, 5/6 extra.
" " " 25 gal. " Box F, 6/- "
For special accessories, long lances, nozzles, bends, etc., see page 13.

7

Four Oaks Spraying Machine Co

Appendix 37E Catalogue 70 - Fruit Tree Spraying Machines. Pages 7 and 8. Based on prices thought to date to about 1927.

"FOUR OAKS" GOLD MEDAL
LIMEWASHING AND FRUIT TREE SPRAYING PUMP.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "Attachable" Pattern

A LONG-FELT WANT.

A powerful Pump which can be fixed to any container in a **few seconds** by simply screwing three wing nuts.

Suitable for Spraying FRUIT TREES, POTATOES, etc., or any kind of limewashing.

The pump is all brass and the valves, brass ball valves.

Specially designed for those who require a **really good powerful pump** which can be fixed to any container they already have.

PRICES.

Attachable No. 1—Exclusive of Container, but complete with Pump and all fittings, Strainer, fifteen feet best quality hose, short brass lance as illustrated, and Spraying and Limewashing nozzles.

£7 0 0

Spare parts outfit for Attachable No. 1, is Box J1, **4/6** extra.

Attachable No. 2—Similar in design to above, but very much more powerful and twice capacity.

£9 0 0

Spare parts outfit for Attachable No. 2 is Box J2, **4/6** extra.

For special accessories, long lances, nozzles, bends, etc., see page 13.

8

Four Oaks Spraying Machine Co

Appendix 37E Catalogue 70 - Fruit Tree Spraying Machines.
Pages 7 and 8. Based on prices thought to date to about 1927.

FOUR OAKS" GOLD MEDAL
KNAPSACKS ARE
THE MACHINES WITH
A REPUTATION.

REGISTERED TRADE MARK
THE FOUR OAKS.

The "FOUR OAKS" "External" Knapsack Sprayer No. Pattern 101

Capacity, 3¼ gallons.

A web band has been fitted to back rim to ensure comfortable fitting to the back.

All working parts **outside** the container.

Pump, air chamber and valves being **outside** are always easily accessible.

Brass Pump.

Brass ball valves.

Brass air chamber.

This is the Machine for Hard Wear.

No Rubber Valves to perish.

"External" Pattern No. 101. Complete as illustrated, with one Double-swivel Nozzle, Copper Container, and suitable for any washes except Liver of Sulphur and Lime and Sulphur Washes ... ... **Price £4 10 0**

"External" Pattern No. 102. Similar to above in construction, but special machine, made to withstand action of Liver of Sulphur and Lime-Sulphur. **Price £4 17 6**

Spare parts outfits for either of these machines, Box H, **5/6** extra.
For useful extra accessories, lances, nozzles, etc., see page 13.

9

Four Oaks Spraying Machine Co

Appendix 37F Catalogue 70 - Fruit Tree Spraying Machines.
Pages 9 and 10. Based on prices thought to date to about 1927.

"FOUR OAKS"
PNEUMATIC KNAPSACK SPRAYER.

REGISTERED TRADE MARK
THE FOUR OAKS.

"Kent" Pattern

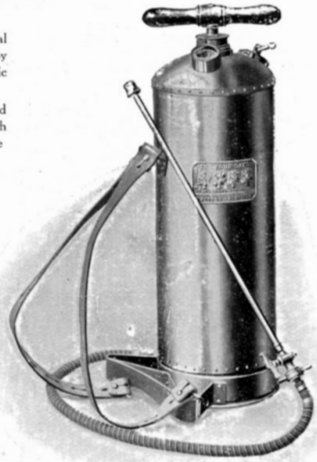
Pneumatic Knapsack Sprayer.
Specially designed for those who prefer the Pneumatic type of Knapsack.

This machine has constructional advantages not possessed by any other make of Pneumatic Knapsack.

Substantially made, with rivetted joints, giving necessary strength for safety under working pressure

This must not be compared with some of the light, cheap, flimsy, machines which are on the market.

Both hands free for manipulating Lance.



No loose pump to carry about.

All Self-contained.

One pumping up will entirely empty the container.

Each Machine complete with Pressure Gauge.

Container made of **"Forex"** Brass Alloy.

Every Machine tested.

	Price.
Four Oaks **"Kent"** Pattern, No. **2.** Standard size. Full capacity, 4 gallons ; working capacity, 3 gallons	**£6 0 0**
Spare parts outfit for above, Box K2, **5/6** extra.	
Four Oaks **"Kent"** Pattern, No. **4.** Medium size. Full capacity, 2½ gallons ; working capacity, 2 gallons	**£5 3 0**
Spare parts outfit for above, Box K4, **5/6** extra.	
Four Oaks **"Kent"** Pattern, No. **6.** Small size. Full capacity, 1¼ gallon ; working capacity, 1 gallon	**£4 2 0**
Spare parts outfit for above, Box K6, **5/6** extra.	

All the above are suitable for use with all kinds of fruit tree and potato washes, **including** Liver of Sulphur and Lime-Sulphur.
They are fitted with 40in. best quality Armoured Hose, Brass Spraying Lance with Stopcock, **Pressure Gauge,** Swivel Nozzle and Tundish with Strainer. Also fitted with Stopcock on machine where hose connects, and Back Rest.
For useful extra accessories, see page 13.

10

Four Oaks Spraying Machine Co

Appendix 37F Catalogue 70 - Fruit Tree Spraying Machines.
Pages 9 and 10. Based on prices thought to date to about 1927.

"FOUR OAKS"
PNEUMATIC SPRAYER
"Weeford" Pattern
(Patent).
An Entirely New Type.

Only requires charging with Air once per day.

No fatiguing hard work.

The Pneumatic Sprayer of the future.

All the advantages of the "KENT" Pattern, with many additions.

REGISTERED TRADE MARK
THE FOUR OAKS

Both hands Free.

An Enormous Saving of Labour

The Very Best Pneumatic Knapsack Sprayer in existence

Containers are made of "FOREX" Brass Alloy, so that they can be used for all usual Spraying Fluids, including Lime Sulphur, Liver of Sulphur, Copper Sulphate, Caustic and Acid Washes, etc.

Capacity, **5** gallons.
Working capacity, **3** gallons.
Weight, **28** lbs.

Price,
complete as illustrated,
£7 17 6

Spare Parts Outfit, Box R, **7/6**

Immensely Popular with Fruit Growers.

(Patent).
Showing the easy way the machine is charged with liquid.

11

Four Oaks Spraying Machine Co

Appendix 37G Catalogue 70 - Fruit Tree Spraying Machines.
Pages 11 and 12. Based on prices thought to date to about 1927.

"FOUR OAKS"

PATENT KNAPSACK SPRAYER.
With Over Shoulder Action.

REGISTERED TRADE MARK
THE FOUR OAKS.

New Combination Pattern.

THE EASIEST WORKING KNAPSACK IN EXISTENCE.

SPECIAL FEATURES.

(1)—**Very Powerful Agitators,** which keep the liquids thoroughly mixed from top to bottom all the time. **No other Knapsack Sprayer** on the market that we have ever seen possesses **an efficient Agitator.**
(2)—**Removable Powerful Brass Pump.** The Pump and Air Chamber are all in one piece, and, by the simple unscrewing of two thumbscrews, taking a few seconds only, lift entirely out of the container for cleaning purposes, etc.
(3)—**Hinged Lid** on No. **400.** A new and very important feature, enabling the Container to be thoroughly cleaned after use. **The only** Knapsack which embodies this feature.
(4)—**Right or Left-Hand Pump.** The Pump can be worked by either right or left hand.
(5)—**Remarkable Ease of Working.** The handle comes over the shoulder, and the working action is very very easy and non-tiring. A feature which users will highly appreciate.
(6)—**Double Container** in No. **400,** enabling the use in one machine of all classes of Chemicals.
(7)—**Convertible** into a Ground Sprayer.
(8)—Not only a Sprayer, but a satisfactory Limewasher.
(9)—No Side Pump or outside Air Chamber. Machine therefore narrow.

No 400. As above, with two Containers as illustration, one Copper for ordinary washes, and one Copper Tinned for use with Liver of Sulphur and Lime-Sulphur.
£7 7 6

No. 401. With one Copper Container only and without Hinged Lid, for those who do **not** use Liver of Sulphur or Lime-Sulphur **£6 15 0**

Both machines are complete as illustrated with 2 Nozzles.
Spare parts outfits for either of these machines, Box L, **5/6** extra.
For extra accessories, see page 13.

12

Four Oaks Spraying Machine Co

Appendix 37G Catalogue 70 - Fruit Tree Spraying Machines.
Pages 11 and 12. Based on prices thought to date to about 1927.

A FEW USEFUL EXTRA ACCESSORIES FOR THE

"FOUR OAKS"

LIMEWASHING AND SPRAYING MACHINES.

REGISTERED TRADE MARK
THE FOUR OAKS

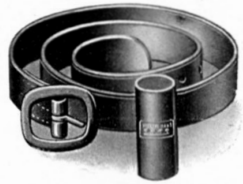
"Four Oaks" Unchokable Nozzle.
(Patent No. 11,000).

No. 71
An Unchokable Nozzle. This nozzle automatically clears if at any time it clogs.
We recommend this nozzle for use with thick and gritty lime or washes. If your lime is ever inclined to choke, this is the nozzle to use.
Price, **6/6** extra, or if in lieu of ordinary limewashing nozzle, **2/-** extra.

The "Four Oaks" Marvellous Nozzle.
No. 68

Gives a wide cloud of vapour-like spray 3 feet across.
Price, **4/6**

"Four Oaks" Special Leather Belt and Brass Socket.
For supporting Long Lance.



Leather Belt and Brass Socket complete. Price, **12/6**

"Four Oaks" Movable Angle Joint.

No. 43
Most popular; enables user to Spray or Limewash easily in most difficult places. We recommend every purchaser of one of our machines to have one of these.

Price, **6/6**

"Four Oaks" Strainer Rod.

This is an **invaluable** addition to any machine, as every grower will realize. The Strainer absolutely prevents any choking or clogging of the nozzle. It can be **immediately** removed for **cleaning** purposes; also the thicker part of the rod, which contains the Strainer, forms an excellent handle for holding rod whilst spraying.

Price, **7/6** extra to the ordinary Spraying Rod.

"Four Oaks" Long Tubes for limewashing high walls or spraying tall trees.
"FOUR OAKS" Bamboo Lances, with interior brass tube, stopcock and all fittings.

4 ft.	in one piece	Price,	**15/-**
6 ft. 6 in.	,, ,,	,,	**25/-**
8 ft.	,, ,,	,,	**27/6**
10 ft. 6 in.	,, ,,	,,	**30/-**
15 ft.	in two pieces	,,	**37/6**

13

Four Oaks Spraying Machine Co

Appendix 37H Catalogue 70 - Fruit Tree Spraying Machines.
Pages 13 and 14. Based on prices thought to date to about 1927.

Four Oaks Spraying Machine Co

Appendix 37H Catalogue 70 - Fruit Tree Spraying Machines.
Pages 13 and 14. Based on prices thought to date to about 1927.

THE
"FOUR OAKS"
"VESEY"
SPRAYING OUTFIT.
(See illustration on opposite page).

With many Fruit Growers, this type of Sprayer is very popular. Our "Four Oaks" "VESEY" possesses many excellent features, and we can recommend it to every Fruit Grower with the greatest confidence.

The Special Features are :—

(1) As will be seen from the illustration, the apparatus consists of a double-barrel pump mounted on a trolley for easy transit.

(2) The pump is very powerful, yet works with great ease.

(3) It is very strongly made, and will give high pressure at a considerable distance from the pump.

(4) Like all "Four Oaks" Sprayers, all working parts are easily accessible and, being extremely simple, are not likely to get out of order.

(5) It is very portable and light, yet at same time is extremely powerful.

Prices.

No. 1 Outfit.—Complete with 6ft. length of Suction Hose with Strainer, one 30ft. length of ½in. best quality Fluted Rubber Hose, Brass Spraying Rod with Tap and two Spraying Nozzles **£25 0 0**

No. 2 Outfit.—If fitted with two 30ft. lengths of Delivery Hose and two Sets of Spraying Fittings **£27 17 6**

No. 3 Outfit.—As No. 1 Outfit, but with one 60ft. length of Delivery Hose instead of one 30ft. length ... **£26 17 6**

No. 4 Outfit.—As No. 3 Outfit, but fitted with two 60ft. lengths of Delivery Hose and two Sets of Spraying Fittings **£31 12 6**

Spare Part Outfit for above, Box V **£0 10 6**

For Bamboo Extension Lances and other useful Accessories, see page 13.

Four Oaks Spraying Machine Co

Appendix 38 - Advertisement - circa 1959

GARDEN REQUISITES SECTION : SPRAYING APPLIANCES AND SYRINGES, ETC. 43

FOUR OAKS

Spraying Equipment for every purpose

Knapsack Sprayers
Pneumatic Sprayers
Wheeled Machines
Hand Sprayers
Syringes
Spraying Pumps
Flame Guns for weed destruction
Mechanized and Self-Propelled types
Tractor-Mounted Spraying Units and Trailer Models

KNAPSACK SPRAYERS

3½-gallons capacity. No. 101, Copper container £14 0 0
No. 102. Tinned-brass container £14 17 6
No. 103. Lead-coated container £16 12 6

FOUR OAKS "STAFFORD"

With automatic agitator. One of our larger wheeled machines. Capacity 18 gallons. £34 17 6

FOUR OAKS "FARMER"

One of our range of popular bucket-type machines. £7 10 6

A fully illustrated, sectional catalogue describing all patterns including the latest MECHANIZED SPRAYERS will gladly be sent on request.

FOUR OAK SPRAYERS have earned a high reputation all over the World for efficient design and quality in workmanship and materials.

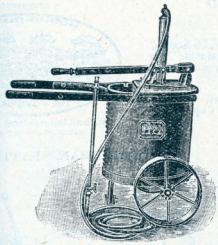
THE FOUR OAKS SPRAYING MACHINE C° LTD
FOUR OAKS · BIRMINGHAM
Phone : Four Oaks 305 & 1560 Grams : Sprayers · Four Oaks

Four Oaks Spraying Machine Co

Appendix 39 - Army and Navy Stores Ltd. 1937/1938

SPRAYING MACHINES FOR FRUIT TREES, POTATOES, Etc., AND LIMEWASHING, FOR GARDENS AND COUNTRY ESTATES.

The "Four Oaks" "Bridgwater" Pattern.



superior machine made in very best style throughout. Thoroughly recommended for general work of all descriptions. It will act as a fruit sprayer, limewashing machine, garden engine, machine for shading s, and every kind of work required in a garden. The pump is very strong and will stand hard and continuous work.

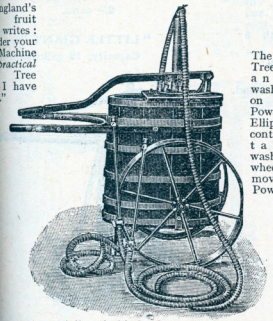
PRICES—

gallon galvanized tank, with very powerful pump, wrought iron wheels, agitator, 15 ft. 3-ply best quality armoured hose, brass tube with tap, special spraying nozzle for lime-wash. Also fine nozzle for fruit tree spraying, and a plain jet for washing with water, strainer, etc. .. **£17 10 0**

EXTRAS—

Bamboo lances with interior brass tube for spraying tall trees or limewashing high buildings can be supplied—6ft. 6in., 25/-; 10 ft. 6 in., 30/-; 15 ft., 37/6; angle joint for spraying under or over branches, etc. (an invaluable addition) **0 6 6**

The "Four Oaks" "Battle" Pattern.



England's fruit writes: nsider your Machine *practical* Tree er I have

The best Fruit Tree Spraying and Limewashing Machine on the market. Powerful pump. Elliptical oak container will take ANY washes. Large wheels. Easily moves about. Powerful agitator.

machine is specially suitable for Orchards, Gardens, etc. Having container, this machine is recommended for any kind of washes.

PRICES—

Oak container, complete with 15 ft. I.R. tubing, spraying arm, one nozzle for limewashing, and one fruit-tree spraying, which also forms straight jet **£24 17 6**
do. **30 0 0**

EXTRAS—

lances with interior brass tube for spraying tall or limewashing high buildings, can be supplied—6 in., 25/-; 10 ft. 6 in., 30/-; angle joint for spraying difficult places **0 6 6**

"Four Oaks" Gold Medal Knapsack Sprayer.

Showing Machine in use on Man's back.

No. 101.

The genuine "Four Oaks" knapsack machine, which has secured more than 60 awards, many in competition with all other makes.

Powerful brass *outside* pump, large air chamber, giving continuous pressure, brass ball suction valves. Nothing to get out of order. Acknowledged universally as the world's Best Knapsack Sprayer. Entire absence of perishable rubber valves.

PRICES—

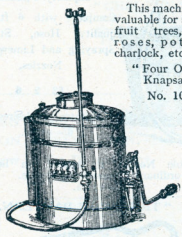
Copper Machine, 3½ gallons capacity, complete with brass spraying arm, swivel nozzle and "Four Oaks" nozzle, giving fine spray and straight jet **£4 10 0**

The Copper Machine must not be used for Lime Sulphur or Liver of Sulphur.

Tinned machine for use with all washes (including Lime Sulphur and Liver of Sulphur) .. **£4 17 6**

EXTRAS—

Bamboo lances for spraying tall trees, 6 ft. 6 in., 25/-; 10 ft. 6 in., 30/-



This machine is invaluable for spraying fruit trees, vines, roses, potatoes, charlock, etc., etc.

"Four Oaks" Knapsack, No. 101.

"Four Oaks" Special Limewashing and Spraying Pump, the "Attachable" Pattern.

For attaching to any barrel or for pumping from a stream or reservoir.

A cheaper form of Attachable Pump can also be supplied—"Southern Cross" Pattern. Price 80/-

No. 1.—Small size, complete with pump and fittings for attaching, 15 ft. best quality hose, limewashing and spraying nozzles **£7 0 0**

No. 2.—Same design and complete as above, but twice the capacity, much more powerful **9 0 0**

NOTE.—Sent direct from Works, carriage not paid. **Immediate delivery.** **See also page 1046.**

ALL PRICES ARE SUBJECT TO MARKET FLUCTUATIONS.

Four Oaks Spraying Machine Co

Appendix 40 - Army and Navy Stores Ltd. 1937/1938

"FOUR OAKS" GOLD MEDAL SPRAYERS.

"FOUR OAKS" GOLD MEDAL SPRAYING, LIMEWASHING AND DISINFECTING MACHINES.

Most useful, simple and effective for Limewashing Cowhouses, Dairies, Stables, Coach-houses, Motor-houses, Factories, or Spraying Fruit Trees and Tropical Crops. Also invaluable for Disinfecting. Of great use for washing down Motor Cars where water is not laid on and make very effective fire extinguishers.

"Four Oaks" Sprayers are in use throughout the world and are guaranteed to give perfect satisfaction. They have been awarded over 60 Gold and Silver Medals, Cups, etc., many in competition with other makes.

COPYRIGHT. REGISTERED TRADE MARK THE FOUR OAKS

Without this registered Trade Mark machines are not genuine.

"FARMER" PATTERN.

Powerful Brass Pump, suitable for spraying any liquid, including Limewash.

Capacity 4 gallons.

Complete with 6 ft. best quality Hose, Strainer, Spraying and Limewashing Nozzles.

£3 2 6

Agitator, if desired, 6/– extra.

Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle. 2/– extra.

Illustration shows **"Wizard"** Pattern Limewashing a wall. Price of "Wizard" Pattern, as illustrated (capacity 6 gallons), and complete with 10 ft. rubber hose and two Nozzles **£4 19 6**

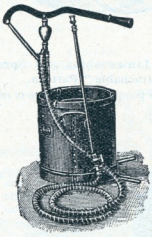
"DAIRYMAN" PATTERN.

Capacity 6 gallons. Very Strong Container. Complete with 6 ft. best quality Hose, Strainer, Spraying Nozzle (which also forms Straight Jet) and Limewashing Nozzle.

£4 0 0

Agitator, if desired, 6/– extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, 2/– extra.

"TRIUMPH" PATTERN.



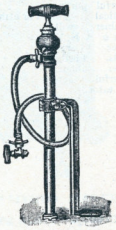
Double Action Lever Pump. Efficient Air Chamber, complete with 10 ft. best Armoured Hose, Brass Spraying Arm with Stopcock, Strainer, Spraying Nozzle (which also forms straight Jet) and Limewashing Nozzle.

£5 5 0

Agitator, if desired, 6/– extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, 2/– extra.

"COLONIAL" PATTERN SPRAY PUMP.

All-Brass Pump and Malleable Iron Stand.



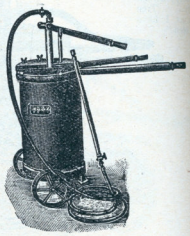
Very useful pump for use in low and small buildings, such as fowl-houses, or for washing down traps, motors, etc.

£1 12 6

Can be supplied with 2 ft. brass rod and stop tap at 5/– extra.

"LITTLE GIANT."

Capacity, 12 gallons.



Automatic Agitator. Bell Valves. Complete with 12 ft. best quality Hose, Brass Spraying Arm with Stopcock, Strainer, Spraying and Limewashing Nozzle.

£11 10 0

"HANDY" PATTERN.

Similar Machine to "Little Giant," but 10-gallon Container and one wheel only.

£11 0 0

NOTE.—Sent direct from Works, carriage NOT paid. Immediate delivery guaranteed.

ALL PRICES ARE SUBJECT TO MARKET FLUCTUATIONS.

Four Oaks Spraying Machine Co

Appendix 41 - 1929

Four Oaks Spraying Machine Co

Appendix 42 Catalogue No. 29

The date of ths catalogue is unknown. Possibly, it could have first been issued in 1929.

CATALOGUE 29

The

"FOUR OAKS"

Spraying, Limewashing & Disinfecting Machines.

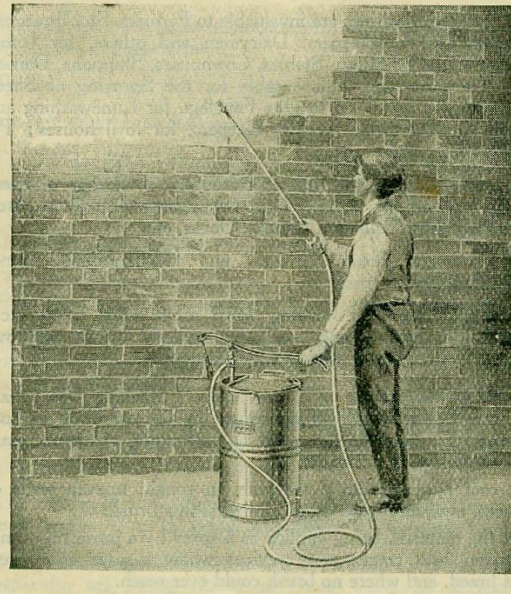


Illustration shows **"Wizard"** Pattern Limewashing a wall.

Price of "Wizard" Pattern, as illustrated (capacity 6 gallons) and complete with 10ft. rubber hose and two nozzles.

£4 19 6

Sole Manufacturers :

THE FOUR OAKS SPRAYING MACHINE Co.

Four Oaks Works, Sutton Coldfield, BIRMINGHAM.

W. C. G. LUDFORD, Proprietor.
Telegrams : "Sprayers, Four Oaks." Telephone : 305 Sutton Coldfield

Four Oaks Spraying Machine Co

Appendix 42 Catalogue No. 29

"FOUR OAKS"
GOLD MEDAL KNAPSACK SPRAYERS.

COPYRIGHT REGISTERED TRADE MARK THE FOUR OAKS

The machines which have beaten other makes in open competition again and again.

The "FOUR OAKS" EXTERNAL Type.
Government approved Standard Pattern.

No. 101

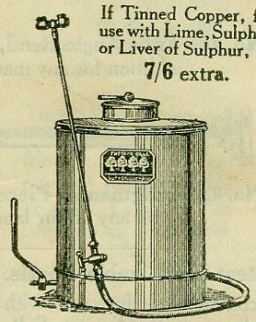
If Tinned Copper, for use with Lime, Sulphur or Liver of Sulphur, **7/6 extra.**

Brass Ball Valves, Brass Pump, all working parts outside Container. **£4 10 0**

The "FOUR OAKS" INTERNAL Type.
Government approved Standard Pattern.

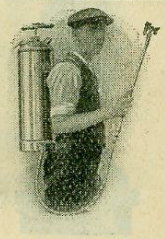
No. 106

If Tinned Copper, for use with Lime, Sulphur or Liver of Sulphur, **7/6 extra.**



The original type of Knapsack Sprayer, with Rubber Diaphragm Pump and Rubber Valves.
£4 10 0

The "FOUR OAKS" KENT Pattern
Pneumatic Knapsack.
Once pumped up, empties itself.
The operator thus has both hands free.
Price, 120/- 4-gallon size.



For other sizes of Pneumatic Sprayers and larger Charlock and Potato Sprayers, please ask for special list.

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Four Oaks Spraying Machine Co

Appendix 42 Catalogue No. 29

A Few of the Uses and Advantages of the "FOUR OAKS" SPRAYING & LIMEWASHING MACHINES.

USES.—These Machines are invaluable to Farmers, Stockbreeders, Horse-owners, Cowkeepers, Dairymen and others, for Limewashing Farm Buildings, Stables, Cowhouses, Shippons, Dairies, etc. They are also indispensable for the Spraying of Sheep and Cattle for fly. Also to Dog Fanciers, for Limewashing and Disinfecting Kennels; Poultry Keepers, for fowl houses; Pig Breeders for pigsties, etc.

They are used for Disinfecting Walls and Buildings of every description and for Limewashing Bakehouses, Slaughterhouses, Factories, Mills, Collieries, Trucks, Docks, etc.

Fruit Growers, Potato Growers and Horticulturists cannot do without them.

Also largely used for washing down motor cars, traps, etc.; walls before limewashing, walls with glazed bricks, windows in hotels. Frequently used as Fire Extinguishers.

ADVANTAGES.—With a "Four Oaks" Machine 500 square feet can be beautifully limewashed in ten minutes without splashing, or inconvenience, and no scaffolding being necessary reduces the risk of accidents.

One coat applied with a machine on rough, uneven walls or surfaces, is equal to two coats applied with a brush.

Also, the material, being applied as a spray by a powerful pump, is driven into cracks and crevices where disease and insect pests breed, and where no brush could ever reach.

With a machine a man can do as much in half-an-hour as in a day with a brush.

Another great saving is made owing to scaffolding being unnecessary; it being possible with the aid of an extension lance to spray to a height of 25 feet without any scaffolding.

Ceilings very easily limewashed.

90% of labour bill saved. All cost of scaffolding saved.

Work done **far better** than it could ever be done with brush, in one-tenth the time!

Four Oaks Spraying Machine Co

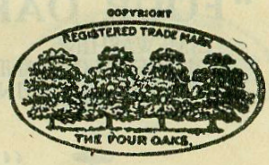
Appendix 42 Catalogue No. 29

A FEW ADVANTAGES OF THE

"FOUR OAKS"

GOLD MEDAL

LIMEWASHING AND
SPRAYING MACHINES.



(1) They all have most powerful brass pumps, absolutely necessary in limewashing machines.

(2) The pumps cannot clog.

(3) The valves are brass ball valves.

(4) The " Four Oaks " Nozzles do not clog, and do not splash, and put on limewash beautifully; any degree of opaqueness desired can be obtained.

(5) Absolutely even pressure when working.

(6) They are absolutely simple from beginning to end and can all be taken to pieces by the most inexperienced person.

(7) All machines are sent out complete with two nozzles, suitable for limewashing, spraying, disinfecting, and forming also straight jet for washing.

(8) Every machine in this list, except the Knapsack Sprayer, may be used for either limewashing, spraying fruit trees, roses, etc., disinfecting, or washing traps, etc.

(9) The results of competitions: all competitors beaten **again and again. Over 60 Gold and Silver Medals awarded.**

(10) **The "Four Oaks" Machines are of British manufacture entirely, all being made at Four Oaks by British labour.**

(11) Full instructions sent with every machine.

WHEN BUYING A LIMEWASHING OR SPRAYING MACHINE, **insist** ON SEEING THE " **FOUR OAKS** " TRADE MARK (SEE ABOVE).

WE CAN DO **anything** FOR YOU **except** TO PROTECT YOU FROM WORTHLESS IMITATIONS, **that** YOU MUST DO FOR YOURSELF.

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Four Oaks Spraying Machine Co

Appendix 42 Catalogue No. 29

"FOUR OAKS"

LIMEWASHING,
DISINFECTING AND
SPRAYING MACHINES.

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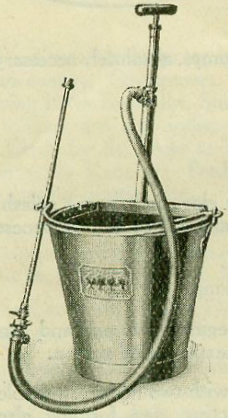


"FARMER" Pattern

Powerful Brass Pump, suitable for spraying any Liquid, including Limewash.

Capacity 4 gallons.

THE CHEAPEST RELIABLE LIMEWASHER OBTAINABLE

Complete with 6ft. best quality Hose, Strainer, Spraying and Limewashing Nozzles.

£3 2 6

Agitator, if desired, **6/-** extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

"FARMER-de-LUXE" Pattern

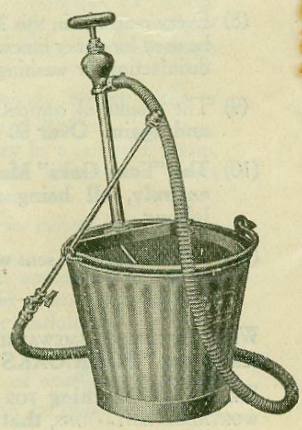
Very Strong Fluted Bucket (Registered Design).

Similar to the "Farmer" Pattern in capacity, but fluted container and powerful pump with brass air-chamber, and **Armoured Hose.**

Price, complete with **6 feet Armoured** Hose, two Nozzles, **Bucket and Strainer.**

£3 8 0

Agitator, if desired, **6/-** extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.



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Four Oaks Spraying Machine Co

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"FOUR OAKS"

LIMEWASHING,
DISINFECTING AND
SPRAYING MACHINES.

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REGISTERED TRADE MARK
THE FOUR OAKS

"DAIRYMAN" Pattern

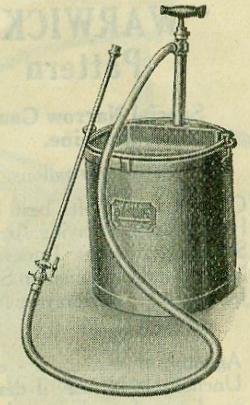
Capacity 6 gallons.

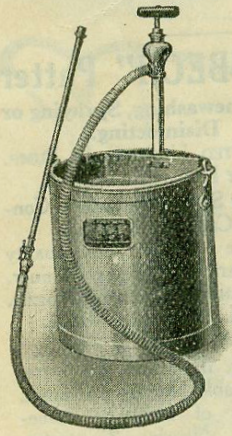
Very Strong Container.

Complete with 6ft. best quality Hose, Strainer, Spraying Nozzle (which also forms Straight Jet) and Limewashing Nozzle.

£4 0 0

Agitator, if desired, 6/- extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, 2/- extra.





"DAIRYMAN-de-LUXE" Pattern

Powerful Brass Pump with Brass Airchamber.

Armoured Hose.

Capacity 6 gallons.

Complete with 6ft. best quality Hose, Perforated Brass Strainer, Combination Jet, Spraying Nozzle, also Limewashing Nozzle.

£4 5 6

Agitator, if desired, 6/- extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, 2/- extra.

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Four Oaks Spraying Machine Co

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"FOUR OAKS"

LIMEWASHING,
DISINFECTING AND
SPRAYING MACHINES.

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THE FOUR OAKS

"WARWICK" Pattern

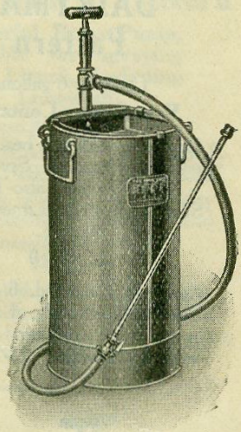
Special Narrow Gauge Machine.

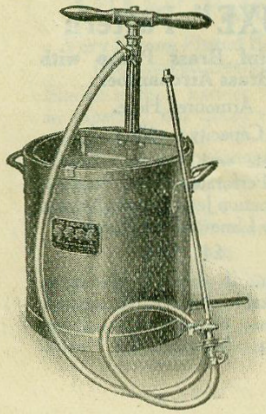
Capacity 6 gallons.

Complete with 6ft. best quality Hose. Brass Spraying Arm with Stopcock, Strainer, Limewashing Nozzle, and Combination Straight Jet which forms Spraying Nozzle.

£4 10 0

Agitator, if desired, **6/-** extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.





"WISBECH" Pattern

For Limewashing, Spraying or Disinfecting.

WARRANTED UNDENTABLE PUMP.
VERY DURABLE MACHINE.

Specially Strong Galvanised Container. Capacity 6 gallons.
Complete with 6ft. best quality Hose, Perforated Brass Strainer, Combination Jet Spraying Nozzle, also Limewashing Nozzle.

£4 15 0

Agitator, if desired, **6/-** extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

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Four Oaks Spraying Machine Co

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"FOUR OAKS"

LIMEWASHING,
DISINFECTING AND
SPRAYING MACHINES.

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THE FOUR OAKS

The "ATTACHABLE"

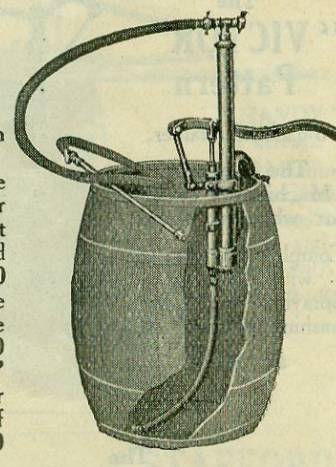
Limewashing and Spraying Pump.

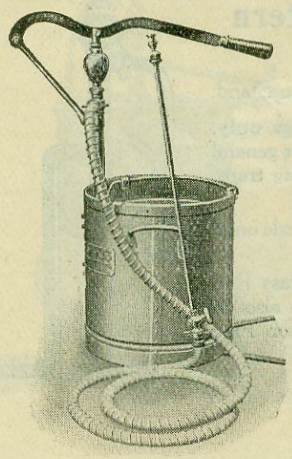
To fit on any Barrel, for Pumping from a well, stream or reservoir.

No. 1—(small size) complete with Pump and Fittings for attaching Strainer, 15ft. best quality Hose, Limewashing and Spraying Nozzles. **£7 0 0**

No. 2—Same design, but twice the capacity. Much more powerful. **£9 0 0**

No. 3—**"Southern Cross"** Pattern, smaller and lighter type of pump than either of above. **£4 0 0**





"TRIUMPH" Pattern

Double Action Lever Pump.

Efficient Air Chamber, complete with 10ft. best Armoured Hose, Brass Spraying Arm with Stopcock, Strainer, Spraying Nozzle (which also forms straight Jet), and Limewashing Nozzle.

£5 5 0

Agitator, if desired, **6/-** extra. Unchokable Nozzle, if desired, in lieu of ordinary Limewashing Nozzle, **2/-** extra.

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Four Oaks Spraying Machine Co

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"FOUR OAKS"

LIMEWASHING,
DISINFECTING AND
SPRAYING MACHINES.

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REGISTERED TRADE MARK
THE FOUR OAKS.

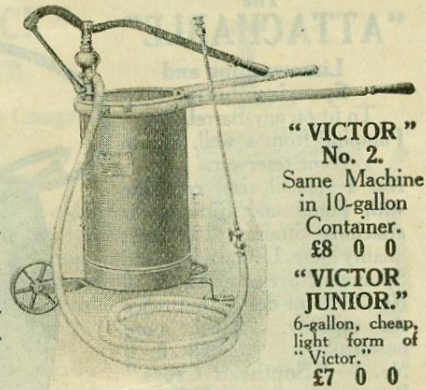
The "VICTOR" Pattern

6-gallon Container.

The Cheapest Machine we make for wheeling about.

Complete as illustrated, with 10ft. Hose, Spraying and Limewashing Nozzles, etc.

£7 10 0



"VICTOR" No. 2.
Same Machine in 10-gallon Container.
£8 0 0

"VICTOR JUNIOR."
6-gallon, cheap, light form of "Victor."
£7 0 0

The "COLONIAL" Pattern

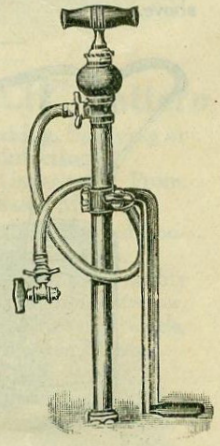
Spray Pump.

All Brass Pump and Malleable Iron Stand.

For use in low and small buildings **only**, such as fowl houses, etc., but **not** for general farm work. Also useful for washing traps, etc.

This Pump is supplied with one Nozzle only.
£1 12 6

Can be supplied with 2ft. 0in. Brass Rod with Stop Tap, at **5/-** extra. Can also be supplied with additional Nozzle for Fine Spraying, **4/6** extra.



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Four Oaks Spraying Machine Co

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"FOUR OAKS"

LIMEWASHING,
DISINFECTING AND
SPRAYING MACHINES.

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"LITTLE GIANT"

Capacity 12 gallons.

Automatic Agitator.

Ball Valves.

Complete with 12ft. best quality Hose.

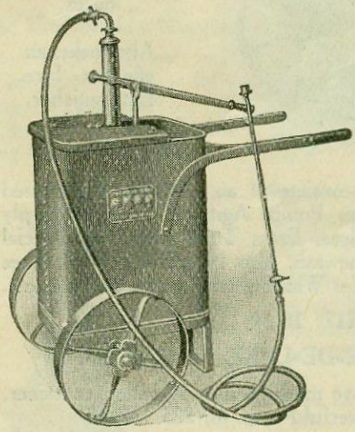
Brass Spraying Arm with Stopcock. Strainer, Spraying and Limewashing Nozzles.

£11 10 0

"HANDY" Pattern.

Similar Machine to "Little Giant," but 10-gallon Container and one wheel only.

£11 0 0



"STAFFORD" Pattern

An Ideal Limewasher and Fruit Tree Sprayer.

Most efficient Agitator.

Very powerful Brass Pump. Capacity 18 gallons.

Pump instantly removed for cleaning, etc.

Complete with 12ft. best quality Hose, Agitator, Strainer, Limewashing and Spraying Nozzles.

£15 0 0

Reg. Design.

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Four Oaks Spraying Machine Co

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"FOUR OAKS"

LIMEWASHING,
DISINFECTING AND
SPRAYING MACHINES.

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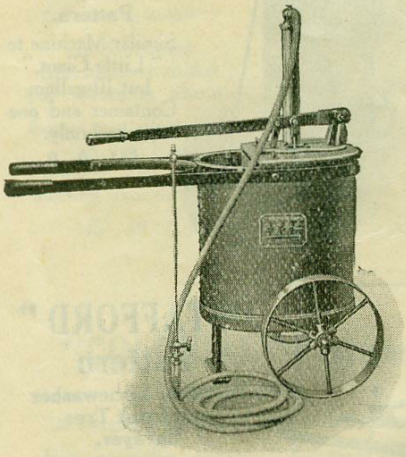
THE FOUR OAKS

The "BRIDGWATER" Pattern

An exceptionally good Limewashing and Spraying Machine.
The machine we recommend for heavy work.



The special feature of this Pump is that the pump bucket works entirely outside the liquid.

This Machine secured "Tropical Life" **Gold Medal** at the International Rubber Exhibition, London, in competition with other makes.

Also makes an efficient Fire Extinguisher.

This high-class machine consists of an 18-gallon Galvanised Tank with Powerful Brass Pump, Agitator, 15 ft. of 3-ply best quality Armoured Hose, Brass Tube with Tap, special Spraying Nozzle for Limewash, also Nozzle for Fruit Tree Spraying, and a Plain Jet for Washing with water, Strainer, etc.

£17 10 0

"BRIDGWATER-DE-LUXE" PATTERN.

We can now offer the above machine in a 30-gallon container, and with a much more powerful Pump, for **£25 17 6**

Four Oaks Spraying Machine Co

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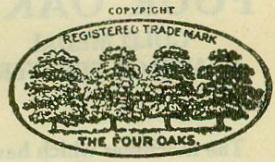
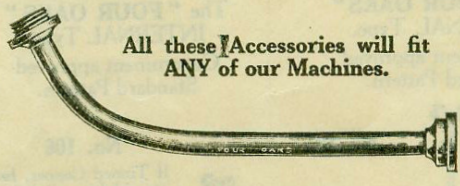
A FEW USEFUL **EXTRA** ACCESSORIES FOR THE

"FOUR OAKS"

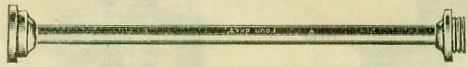
SPRAYING AND LIME-WASHING MACHINES.



All these Accessories will fit ANY of our Machines.

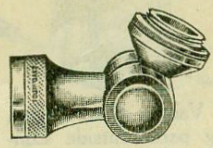


No. 41—Tube Angle Bend, 12in. long. A good addition for any machine. **2/6**

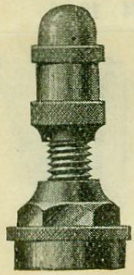


No. 42—Lengthening Piece, 12in. long. Will fit on any of our lances. **2/6**

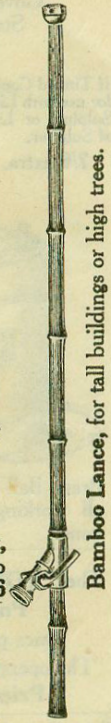
Patent Unchokable Nozzle.
Recommended for use with thick or gritty lime. Self-cleaning. **Price, 6/6**
If in lieu of ordinary Lime-washing Nozzle, **2/-** extra.



Patent Angle Joint, for spraying lime into difficult places. **6/6**



Bamboo Rods, with interior Brass Tube and Stopcock, for spraying or limewashing tall buildings or trees. 4ft., in one piece. **Price, 15/-**
6ft. 6in. ditto, **25/-** 8ft., **27/6**
10ft. 6in., **30/-** 15ft., **37/6**



Bamboo Lance, for tall buildings or high trees.

Four Oaks Spraying Machine Co

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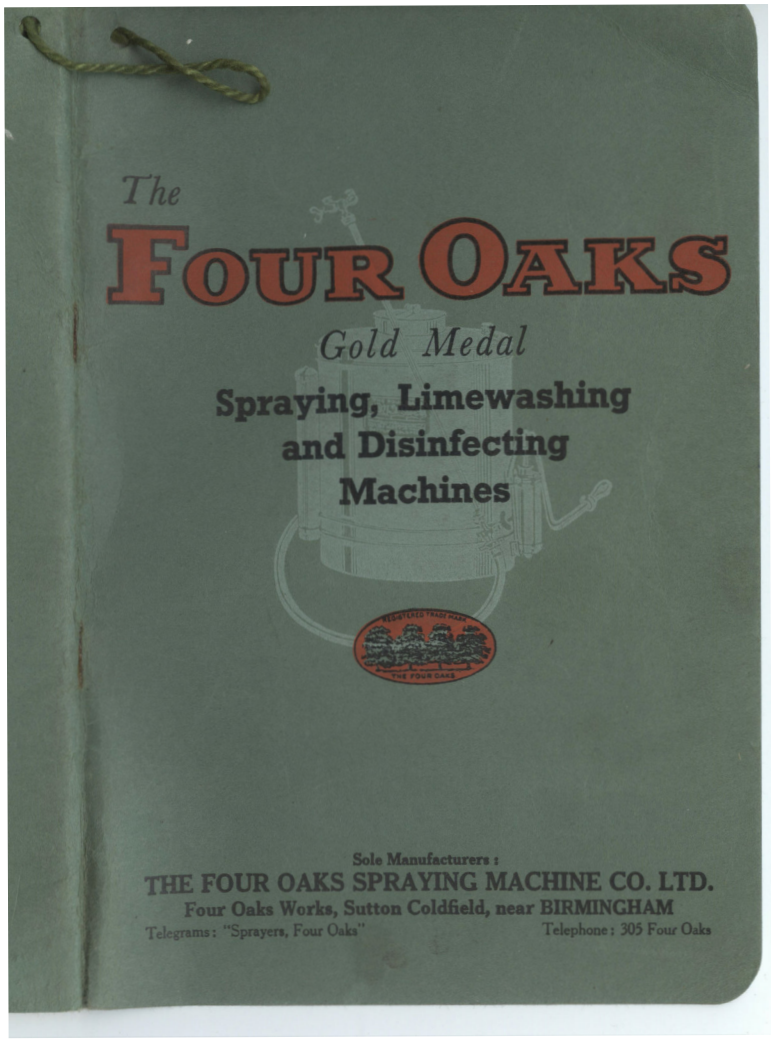
The date of this catalogue is unknown. Because of the colour it is assumed to be later than 1935A.



Four Oaks Spraying Machine Co

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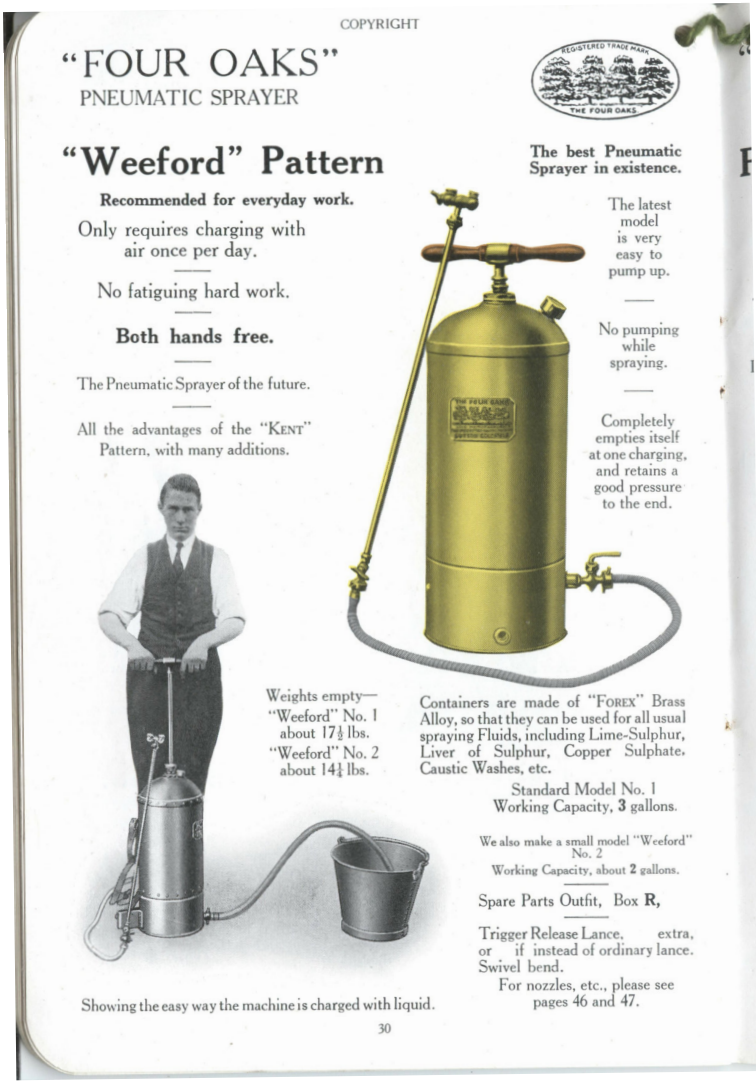

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"FOUR OAKS"
PNEUMATIC SPRAYER

REGISTERED TRADE MARK
THE FOUR OAKS

"Weeford" Pattern

The best Pneumatic Sprayer in existence.

Recommended for everyday work.

Only requires charging with air once per day.

No fatiguing hard work.

Both hands free.

The Pneumatic Sprayer of the future.

All the advantages of the "KENT" Pattern, with many additions.

The latest model is very easy to pump up.

No pumping while spraying.

Completely empties itself at one charging, and retains a good pressure to the end.

Weights empty—
"Weeford" No. 1 about 17½ lbs.
"Weeford" No. 2 about 14¼ lbs.

Containers are made of "FOREX" Brass Alloy, so that they can be used for all usual spraying Fluids, including Lime-Sulphur, Liver of Sulphur, Copper Sulphate, Caustic Washes, etc.

Standard Model No. 1
Working Capacity, **3** gallons.

We also make a small model "Weeford" No. 2
Working Capacity, about **2** gallons.

Spare Parts Outfit, Box **R,**

Trigger Release Lance, extra, or if instead of ordinary lance. Swivel bend.

For nozzles, etc., please see pages 46 and 47.

Showing the easy way the machine is charged with liquid.

30

Four Oaks Spraying Machine Co

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"FOUR OAKS"

PATENT KNAPSACK SPRAYER
With Over Shoulder Action.

REGISTERED TRADE MARK
THE FOUR OAKS

Four Oaks Knapsack Sprayer No. 501

A New 1950 Model (Patent pending).

THE EASIEST WORKING KNAPSACK IN EXISTENCE

Weight empty with agitator, about **15** lbs.

without agitator, about **14¼** lbs.

Container of Brass alloy tinned inside.

Will withstand action of most chemicals including Liver of Sulphur and D.D.T. compounds.

(1)—**Easily Removable Powerful Brass Pump.** The Pump and Air Chamber are all in one piece, and, by the simple unscrewing of two thumbscrews, taking a few seconds only, lift entirely out of the container for cleaning purposes, etc.

(2)—**Easily Accessible Valves.** Can be taken out and cleaned in a few minutes by any user.

(3)—**Easily Removed Plunger,** which can be taken out or replaced in a few moments. The above 3 points are of great importance. The operator in the field can quickly obtain access to all working parts.

(4)—**Right- or Left-Hand Pump.** The Pump can be worked by either right or left hand.

(5)—**Remarkable Ease of Working.** The handle comes over the shoulder, and the working action is very very easy and non-tiring. A feature which users will highly appreciate. The great leverage obtained makes the working seem remarkably easy.

(6)—A really efficient agitator is fitted when desired so that the liquid is always kept agitated. It is detachable and the machine can be used with or without it. (Patent pending.)

(7)—There are no fittings attached to the sides of the container, so that the machine is narrow and there are no fittings which can catch on overhanging branches.

(8)—As the pump, valves, and all working parts are easy to remove in one piece, leaving the container empty, it is easy to wash the container out and so prevent corrosion when not in use.

Price, Without agitator -
With agitator -

For extra nozzles, etc., please see pages 46 and 47.

Four Oaks Spraying Machine Co

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The "Four Oaks-Ross" Anti-Malarial Sprayer

This Four Oaks Knapsack Sprayer has been designed to meet the need of a Special Model for Anti-Malarial work. Mr. C. R. Harrison, the Special Malaria Officer of the Ross Institute, who has had a wide experience in Anti-Malaria Spraying under difficult conditions, explained to us the special requirements for the work, and this Model embodies all the suggestions made by him. The late Sir Ronald Ross gave us his permission to call this the "Ross Sprayer".

Simple and foolproof to use.

Just fill it and pump.

Strong Galvanized Iron Container.

Capacity 3¼ gallons.

Weight empty approximately 15 lbs.

Very easy working

Brass Pump with Over-shoulder Action.

Having no pump or handle at side, there is nothing to catch in passing through narrow places.

Adjustable Web Straps.

Price With automatic agitator (Patent pending) extra.

Complete as illustrated, with Brass Spraying Rod, Special Oil Spraying Nozzle and 4 feet Best Quality Oil-Resisting Rubber Hose, fixed on with clips.

Ross de Luxe Sprayer

This is similar in principle and design to the Standard Ross, but with **Brass** container, iron bottom rim, back rest with webbing, detachable strainer and other refinements. **Price,** With automatic agitator (Patent pending) extra.

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Four Oaks Spraying Machine Co

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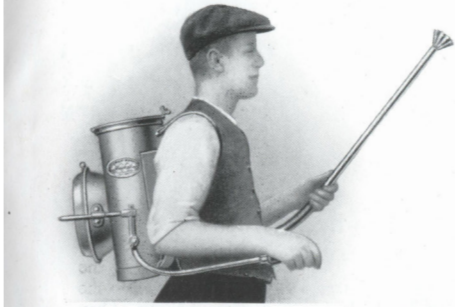
"FOUR OAKS"
DRY POWDER DISTRIBUTOR

REGISTERED TRADE MARK
THE FOUR OAKS

The "Little Wonder" Pattern

The Very Latest and Best in Powder Distributors.



"Four Oaks" Powder Distributor "Little Wonder" Pattern at work.

Quick filling.

Flow of powder regulated instantly as required.

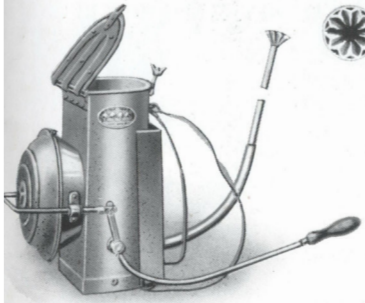
Easy working.

Simple, and all working parts accessible.

Very light.

Weight about 12 lbs.

THE VAPOURISER JET



"Little Wonder" Pattern, showing lid open for filling.

This Jet will distribute powder in a beautiful even cloud.

It is a new invention which will be much appreciated by all who use Powder Distributors.

THE IDEAL MACHINE for Spraying Powders on Potatoes, Strawberries, Tea, Coffee, Vines, etc.

Powder can be poured straight into machine from a bag.

Machine can be **filled** with powder

Price

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Four Oaks Spraying Machine Co

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"FOUR OAKS"
BATTERY
PNEUMATIC KNAPSACK SPRAYER
with Central Charge Pump.

A "Battery" Spraying Outfit consists of a powerful Central Charging Pump, **WHICH PUMPS BOTH AIR AND LIQUID,** and a number of Knapsack Sprayers, as illustrated on opposite page, **without any pump.**

HOW A "BATTERY" SPRAYER IS CHARGED

The Central Charge Pump is fixed across a tub containing the Spraying Fluid, and to commence, **AIR** is first pumped into the empty Knapsack Machine to a low pressure—about 30 lbs. Then the air valve is closed, and the liquid is pumped in, which compresses the air to a higher pressure sufficient to automatically drive all the contents out in the form of a very fine spray. As soon as the liquid is emptied, a ball automatically drops, closing the entrance valve, **SO THAT THE AIR IN THE MACHINE IS RETAINED.** To recharge the machine, therefore, it is only necessary to pump in more **liquid,** the first charge of air being sufficient for many recharges of liquid.

ADVANTAGES OF THIS SYSTEM

The great advantages of this system will be apparent to everyone. One man can be kept at the Central Charge Pump, and quite easily keep six to twelve men **constantly** spraying **without any pumping action on their part,** All they have to do is to direct the Spray, for which they have both hands free, and immediately the spraying liquid is exhausted, return to the charge pump, where a filled machine will be waiting for them. In this way an enormous amount of spraying can be done in an incredibly short time **with an entire absence** of fatigue.

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Four Oaks Spraying Machine Co

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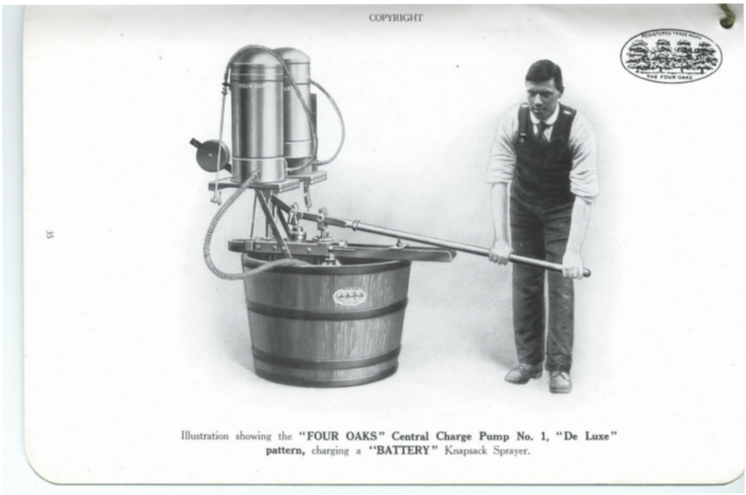

Illustration showing the **"FOUR OAKS" Central Charge Pump No. 1, "De Luxe" pattern,** charging a **"BATTERY"** Knapsack Sprayer.

Four Oaks Spraying Machine Co

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The Four Oaks Battery Knapsack Sprayers.

A Battery can consist of any number of these Knapsacks from 3 to 12.

Illustration shows Battery Knapsack with air and liquid valves.

A well-known Mycologist writing on Spraying in Indian Tea Plantations wrote:

"In my opinion 'Batterys' are the very last word in Spraying."

PRICES

"Four Oaks" Central Charge Pump de Luxe, No. 1.
(Recommended.)
A strong and powerful pump with strong ironwork and a double table for the sprayers, with leather straps. (Tub not included).

Central Charge Pump No. 2.
A much lighter and cheaper pump, but works on the same principle.

Central Charge Pump No. 3.
Similar to pump No. 2, but mounted on an iron stand, so that it can be carried by two men from tub to tub.

Spare parts outfits, extra.

"Four Oaks" Battery Knapsack Sprayers, 4 gallons—working capacity, 3 gallons. Made of Brass Alloy, complete with Brass lance, hose and nozzle.

Battery Knapsack No. 1, without gauge, for Charge Pump No. 1.
Battery Knapsack No. 2, with gauge, for Charge Pumps Nos. 2 and 3.
A special leaflet on Battery Sprayers is also issued.

Spare parts outfit if required, each.

Note.—To order a **Battery Outfit,** order must be for Central Charge Pump, **AND** also the number of Knapsacks required.

Four Oaks Spraying Machine Co

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The Four Oaks "Excelsior" Suction Spraying Syringe.

The most popular of all suction spraying syringes

For general Spraying and for Fruit Trees, Roses and in the greenhouse.

As it can be reversed without stopping it spraying, it is one of the handiest of sprayers for spraying both under and over the leaves of plants and bushes.

The Sprayer is strongly made of brass in the usual Four Oaks style.

It is very easy to handle and it sprays practically continuously both on the up and down strokes

Sprayer as illustrated (but **exclusive** of bucket) complete with 10 feet of rubber hose, with Suction Strainer, Strainer to fit any size bucket, 2 Nozzles, one fine and one coarse, Extension Lance and Tube Bend.

Price

"Excelsior" Syringe as a Knapsack Sprayer.

This syringe can also be used as a Knapsack Sprayer and can be supplied with a 3¼ gallon Brass container to carry on the back, see page 39.

Four Oaks Spraying Machine Co

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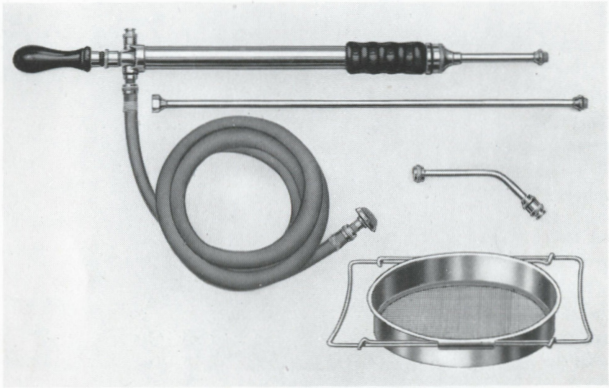
The Four Oaks "New Ideal" Suction Syringe

Draws its supply from any bucket in a similar way to the "**Excelsior**" on preceding page.



It is very easy working. Gives a continuous spray. Has a metal plunger, and consequently no cup leathers.

Price complete as illustrated above, for use with user's own bucket -

The "New Ideal" drawing its supply from a bucket.

The **"New Ideal"** can also be used as a Knapsack Sprayer by having a Knapsack container to carry on the back as illustration on next page.

Four Oaks Spraying Machine Co

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"FOUR OAKS"
SUCTION SYRINGES
USED AS KNAPSACK SPRAYERS

Both types of Four Oaks Suction Spraying Syringes can be used as Knapsack Sprayers by having a Knapsack Container to carry on the back. The Syringe is then worked by the hands and draws its supply of liquid from the Knapsack Tank.

The Four Oaks "EXCELSIOR" complete with Knapsack Tank

Brass Tank 3¼ gallons.

—

Double acting Syringe.

Spray is continuous while pumping.

Complete with Brass Knapsack Tank, Syringe, Hose, Straps, Nozzles and Fittings as illustrated.

The Four Oaks "NEW IDEAL" Syringe complete with Knapsack Tank

Brass Tank 3¼ gallons.

—

Continuous Spray.

Complete with Knapsack Tank, Straps, Syringe, Hose, Nozzles and Fittings as illustrated.

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Four Oaks Spraying Machine Co

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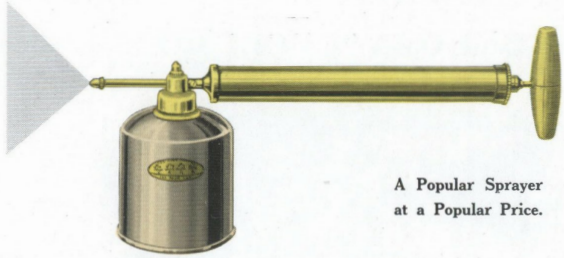
"FOUR OAKS"
SMALL HAND SPRAYERS

The "Maney" Pattern

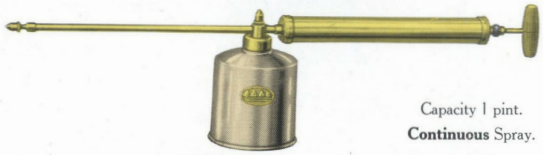


A Popular Sprayer at a Popular Price.

Spray is **continuous** and a very fine vapour. Capacity 1 pint.
It is necessary to pump continuously while spraying. There are two nozzles complete with it, one spraying straight and one which will spray up or down.
The container unscrews and new ones can be supplied when it wears out.

With Copper Container -
With Brass Container -

The "Maney" No. 3



Capacity 1 pint.
Continuous Spray.

A similar sprayer to the "Maney", but with a long arm so that higher or more difficult places can be reached. With the sprayer it is possible to reach about 8 feet high.

Price

40

Four Oaks Spraying Machine Co

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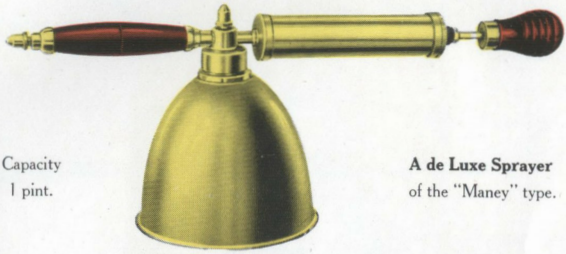
"FOUR OAKS"
SMALL HAND SPRAYERS

The "Maney de Luxe" Pattern

A Beautifully Finished Little Sprayer.
(Registered Design).



Capacity
1 pint.

A de Luxe Sprayer
of the "Maney" type.

It has an extra handle and a container which stands upright even when empty. Container is of brass, and handles of wood.

The Spray is a fine one and it has two nozzles, one spraying straight forward, and one up or down. Spray is **continuous.**

The "Maney" No. 4

Brass
Container.

Capacity about 1 pint.
Continuous Spray.

Similar in principle to the "Maney de Luxe", but so constructed that a height of 8 feet can be reached, and the long arm is also useful for reaching inside bushes or difficult places.

Sturdily constructed and stands upright even when empty.

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Four Oaks Spraying Machine Co

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"FOUR OAKS"
HAND SPRAYERS

The "Chelsea" Pattern No. 2

Built for reliability, with no loose parts or cup leathers, this sprayer is specially popular for everyday work

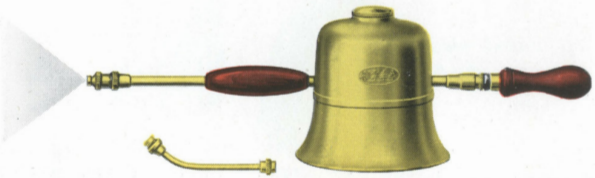

Illustration of a **"Chelsea No. 2".**

This machine is designed for reliability, it gives a very fine spray, every part is easily removable, and piston rod can be pulled out without even unscrewing. No leathers or perishable type of plungers.

Made in brass alloy. Capacity about 3 pints.

Gives a remarkably fine cloud-like spray with a wide spread.

The spray is intermittent. Acts on on stroke of the pump only.

PRICES

No. **2** Intermittent spray

Angle Bend (recommended) extra.

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"FOUR OAKS" PNEUMATIC SPRAYER

REGISTERED TRADE MARK — THE FOUR OAKS

The "Streetley" Pattern

Capacity 2 quarts · Working Capacity 3 pints

These machines are self-contained.

Brass alloy Container with riveted seams.

"Streetley" Pattern. Price

Spare parts outfit, Box N, extra.

The "Streetley de Luxe" Pattern

Capacity 2 quarts · Working Capacity 3 pints

Similar to **"Streetley,"** but works with a press-down Tap.

Very economical with liquid.

Price

Brass alloy Container.

Spare parts outfit, Box O, extra.

Small size of above Streetley-de-Luxe No. 2

"Streetley-de-Luxe" of 1¼ pints working capacity—Order as "Streetley-de-Luxe No. 2"

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Four Oaks Spraying Machine Co

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The Four Oaks
FLAME GUN No. 1

For destroying weeds, sterilising, etc. Invaluable for the farm and garden.
It burns ordinary paraffin and is very economical in use.
Simple and easy to use; once started it burns with little attention and one person can operate it.
Gives a very hot, smokeless blue flame, about 2,000° F.

PRICE: Four Oaks Flame Gun No. 1 complete as illustrated, with steel container giving a working capacity of about 2 gallons of paraffin (enough to last about 2 hours)

Spare parts outfit containing all useful spares,

44

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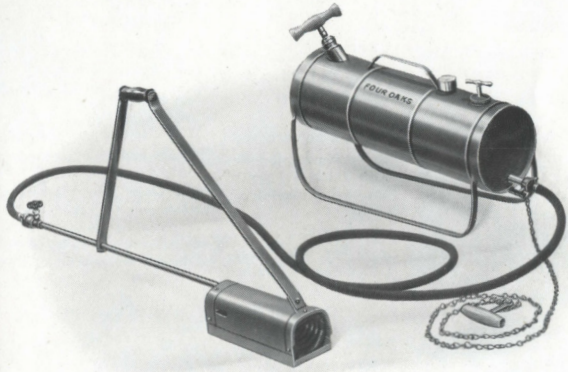
The Four Oaks
FLAME GUN No. 2

Similar to the Flame Gun No. 1, but with horizontal container mounted on metal runners so that it can be pulled behind operator along garden paths or other fairly smooth surfaces.



FOUR OAKS FLAME GUN No. 2

Same capacity as No. 1 (holding about two gallons of paraffin).

PRICE, complete with container, pump, pressure gauge, chain and flame gun, as illustrated,

Spare Parts Outfit,

45

Four Oaks Spraying Machine Co

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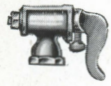
A FEW USEFUL EXTRA ACCESSORIES which can be used with any "FOUR OAKS" Spraying Machines (except the small Hand Sprayers and Syringes)

"Four Oaks" Seneca Nozzle. No. 91



Price,
Can be adjusted by turning lever from straight jet to coarse flat spray.
Can be cleaned by reversing lever.

"Four Oaks" Woodford Nozzle. No. 92

Gives a fine spray, specially good for oily liquids.
With two tips, fine and coarse.
Supplied with the Ross as standard.
Price, extra.

"Four Oaks" Humidifying Nozzle. No. 93

For very fine sprays only (not for thick liquids).
Price,

The "Four Oaks" Marvellous Nozzle. No. 68

Gives a wide cloud of spray 3 feet across.
Price,

"Four Oaks" No. 69
Price,
The nozzle for any thick washes.
Can be cleared instantly by simply pressing the top, without unscrewing.

"Four Oaks" Unchokable Nozzle. No. 71
For very thick liquids.

Recommended for use with thick or gritty limewash or other thick washes.
Self-cleaning.
If in lieu of ordinary Limewashing Nozzle, extra

Single Swivel Spraying Nozzle.
With 2 Jets of different powers.
Price,

No. 94

"Four Oaks" Double Swivel Nozzle.
Convertible into Single. With 3 pairs of jets of various powers.
Supplied as standard with "Kent" and 101, 102 Knapsacks. Additional ones,

"Four Oaks" Nozzle. No. 51

When the small cap is inside Nozzle, No. 51 gives a fine spray, suitable for trees or disinfecting.
By taking out the small cap a straight jet is obtained.

Hose Clips. No. 90
Spring Clips for attaching hose to Knapsack Sprayers
each.

Straight Jet. No. 17 extra.

Bend. No. 40

Tube Bend. No. 41
12in. long, extra.

Lengthening Piece. No. 42
12in. long, extra.

"Four Oaks" Movable Angle Joint. No. 43

Fits on any lance and takes any nozzle.

Stays in any position.
Enables operator to spray at difficult angles.
Price,

Four Oaks Spraying Machine Co

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A NEW USEFUL EXTRA ACCESSORIES which can be used with any "FOUR OAKS" Spraying Machines (except the small Hand Sprayers and Syringes).

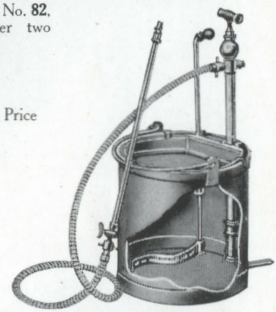
REGISTERED TRADE MARK
THE FOUR OAKS

Extra lengths of Rubber Tubing.

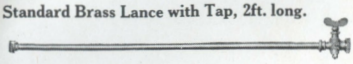
6ft. length complete with unions ... ...
10ft. length, do. ...
15ft. length, do. ...
If armoured, per foot extra.
If without unions, per length less.

Connecting Union No. **82.** for joining together two lengths of ¼in. hose.

Price

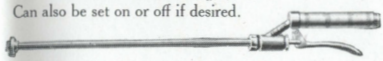


Standard Brass Lance with Tap, 2ft. long.



As supplied with all our machines without extra charge.
Additional ones,

"Four Oaks" Trigger Release Lance. (Patent pending).
Gives instantaneous start and shut-off.
Economical with liquids.
Overall length, 2ft.
Can also be set on or off if desired.



(Not for limewashing).
Price,

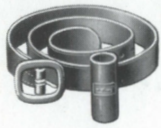
Swivel angle bend for same, No. **98,**
If purchased with a machine **instead** of ordinary lance, extra.

"Four Oaks" (Patent) Agitator No. **44.**
For use with bucket types of machines.

Agitator No. **44** (as above).
For use with "Farmer", "Farmer de Luxe", "Dairyman" and "Dairyman de Luxe" Patterns. Works separately by the hand. Price,

"Four Oaks" **Automatic Agitator,** No. **95.** (Patent pending).
For use with the "Wizard", "Wizard de Luxe", "Triumph" and "Victor" Models. Agitates the liquid automatically with each stroke of the pump. Price,

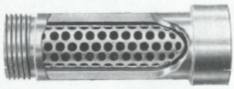
Belt and Socket.



Useful when it is desired to hold a long bamboo lance in one hand.
Price,

"FOUR OAKS" STRAINER ROD.

This end screws into Cap and Lining on hose.



This end screws on to Brass Rod and Tap.

Prevents unwanted matter getting into the nozzle. It can be **immediately** removed **for cleaning** purposes; also the thicker part of the rod, which contains the strainer, forms an excellent handle for holding rod whilst spraying.
Price, extra.

"Four Oaks" long Tubes for Limewashing high walls or spraying tall trees.
"FOUR OAKS" Bamboo Lances, with interior brass tube, stopcock and all fittings, except nozzle.
In one piece: 4ft., 6ft 6in., 8ft., 10ft. 6in.,
In two pieces: 15ft.,

47

Four Oaks Spraying Machine Co

Appendix 43 Catalogue (Part) Circa 1950

COPYRIGHT

THE
"FOUR OAKS"
PORTABLE
FIRE PUMP Nos. 1 and 2.

For Institutions, Works, Public Buildings, Country Estates, Mills, Factories, Houses, etc.

No Chemicals. Always Ready. No fitting together.

No parts to be lost at the critical moment.

Anyone can work these without any instructions.

They have powerful pumps which throw a large jet of water a considerable distance.

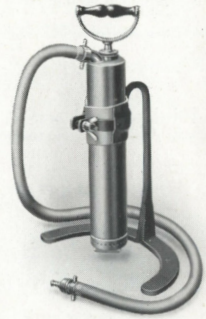
Portable Fire Pump
No. 1.

No complicated instructions to follow.

Just Pump.

Always ready.

Portable Fire Pump
No. 2.



No. 1 fixed in 6 gallon container complete with container.

Price

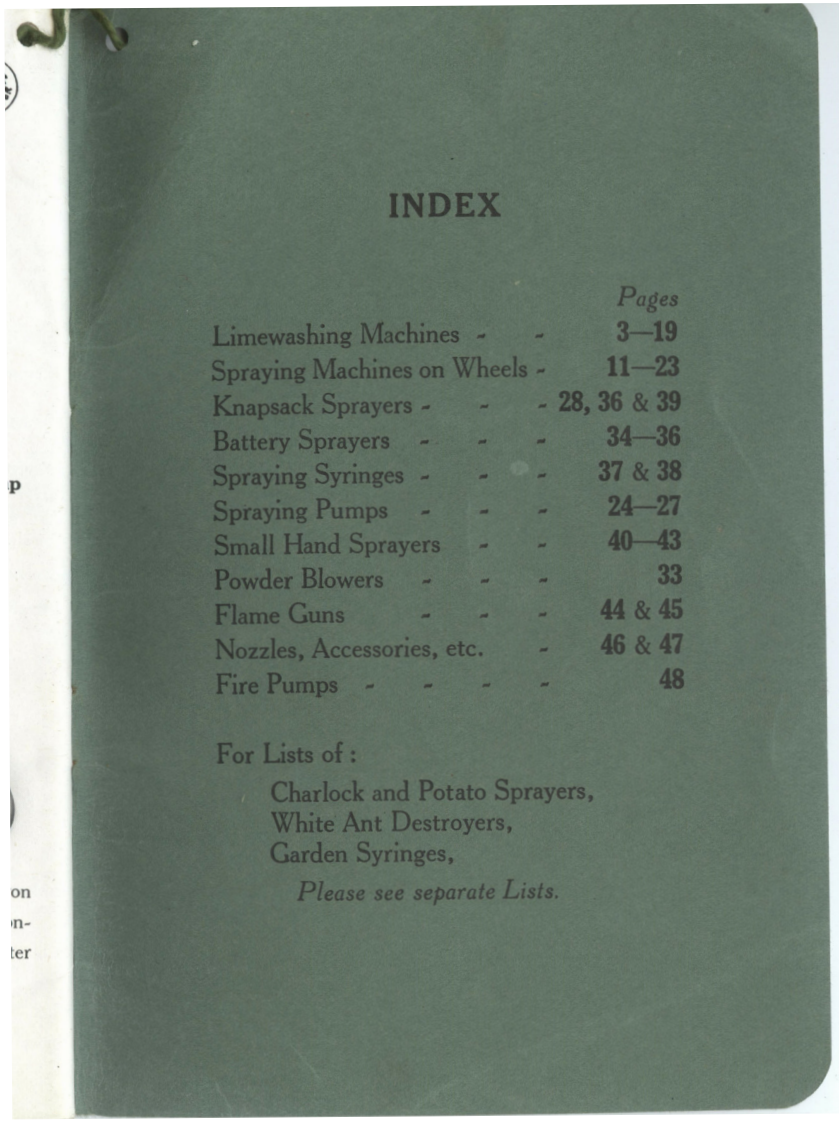
No. 2 complete with Iron Footrest instead of container. Draws its water from any bucket.

Price

48

Four Oaks Spraying Machine Co

Appendix 43 Catalogue (Part) Circa 1950



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Powder Blowers	33
Flame Guns	44 & 45
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Fire Pumps	48

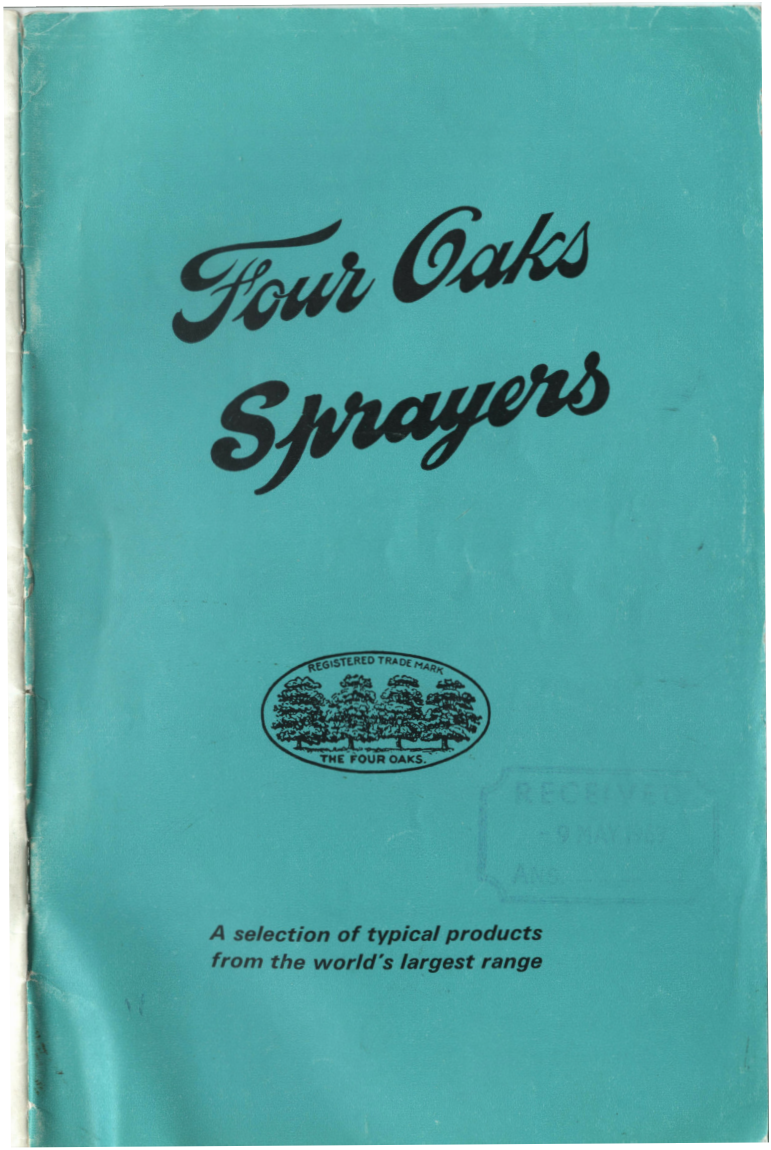
For Lists of :

Charlock and Potato Sprayers,
White Ant Destroyers,
Garden Syringes,

Please see separate Lists.

Four Oaks Spraying Machine Co

Appendix 44 (1) Catalogue 1968 [E57]



Four Oaks Spraying Machine Co

Appendix 44 (2) Catalogue 1968 [E57]

NOZZLES AND ACCESSORIES

A selection from the Four Oaks range which comprises devices for every Spraying need

"Four Oaks" Nozzle
No. **51**
Gives a fine spray, suitable for trees or disinfecting. Remove inner cap to obtain straight jet.
Price **11s. 9d.**

"Four Oaks" Unchokable Nozzle
No. **71**
For very thick liquids. Recommended for thick limewash or similar. Self-cleaning.
Price **16s. 3d.**

"Four Oaks" Woodford Nozzle
No. **92**
Gives a fine spray, specially good for oily liquids.
Price **11s. 9d.**

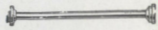
"Four Oaks" Humidifier Nozzle
No. **83**
For very fine sprays only (not for thick liquids).
Price **11s. 9d.**

"Four Oaks" Tee Jet Nozzle
Gives flat fan-type spray.
No. **10** Fine spray
No. **20** Medium spray
No. **30** Coarse spray
Price **21s. 9d.**

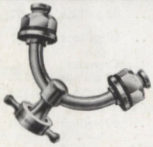
"Four Oaks" Marvellous Nozzle
No. **68**
Gives a wide cloud of spray 3 feet across.
Price **11s. 9d.**

"Four Oaks"
No. **69**
The nozzle for any thick washes. Cleared instantly by pressing the top, without unscrewing.
Price: **14s. 3d.**

Tube Bend. No. **41**
12in. long. Price **10s. 6d.**

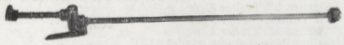


Lengthening Piece
No. **42, 42a, 42b**
12in., 24in., 36in. long
Prices: **9s. 9d., 12s. 0d., 14s. 6d.**



"Four Oaks" Fork Attachment. No. **35**
Fits standard brass lance or Trigger release lance, enabling two nozzles to be used.
Price **19s. 3d.**

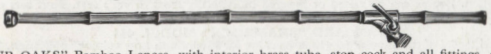
"Four Oaks" Trigger Release Lance
Overall length 2ft. Price **35s. 6d.** For all normal uses. (Not for limewashing.)



Curved or straight (not for limewashing).

Standard Lance with Tap, 2ft. long
As supplied with all our limewashing machines without extra charge. Price **24s. 3d.**

"Four Oaks" long Tubes for Limewashing high wall or spraying tall trees



"FOUR OAKS" Bamboo Lances, with interior brass tube, stop cock and all fittings, except nozzle.
In one piece: 4ft., 6ft. 6in., 8ft., 10ft. 6in. In two pieces: 15ft.
Prices: **41s. 6d., 68s. 6d., 73s. 9d., 81s. 3d., 101s. 9d.**

"Four Oaks" Twin Swivel Nozzle
No. **1**
Supplied with caps giving medium spray.
Price **22s. 3d.**
Blank cap or fine or coarse caps available.
2s. 6d. each.

Connecting Union
No. **82**
For joining together two lengths of ½in. hose.
Price **8s.**

Printed by Watmoughs Limited, Idle, Bradford; and London WATMOUGHS PRINT

Four Oaks Spraying Machine Co

Appendix 44 (3) Catalogue 1968

FOUR OAKS SPRAYING MACHINE CO., LTD.
FOUR OAKS, SUTTON COLDFIELD, WARWICKSHIRE, ENGLAND
Telegrams: "Sprayers, Four Oaks" Telephone: 021-308 3771

FOUR OAKS SPRAYERS

Four Oaks offer the widest range of sprayers of any company in the world.

Four Oaks sprayers have been accepted all over the world for over sixty years as the highest quality sprayers, setting the standard in efficiency and reliability. They provide for every spraying need in a thoroughly practical way, and are right for price.

Four Oaks representatives and technicians travel all over the world, and study spraying conditions locally. Four Oaks are always prepared to manufacture special machines for special needs, and do so regularly.

This leaflet shows a selection of typical machines from our range of over one hundred patterns. If you do not find the machine you need, please write to us and we will give the information and advice you desire. Detailed information of all our products is available freely on application.

Four Oaks have been specialists in spraying since 1895, and manufacture only spraying machines and flame guns.

Four Oaks Spraying Machine Co

Appendix 44 (4) Catalogue 1968

FOUR OAKS *Sprayers and Limewashers*

The Four Oaks "FARMER"

A reliable and well made machine at a reasonable price.

Capacity	4 gallons.
Bucket	Heavily galvanized.
Pump	Double acting brass with air chamber.
Hose	6ft. ¼in. high pressure oil resisting.
Spraying arm	2ft. polished brass, with stop cock.
Nozzles	One limewashing and one spraying.
Strainer	Strong perforated bucket strainer.

Spare parts outfit, Box A, available. 7/3

For Limewash, Creosote, Distemper, Insecticide, Disinfectant and general spraying.

Price **£10 16s. 6d.**

The Four Oaks "DAIRYMAN"

A larger bucket type machine with extra strong container.

Capacity	6 gallons.
Bucket	Heavy galvanized.
Pump	Double acting brass.
Hose	6ft. ¼in. high pressure oil resisting.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewashing and one spraying.
Strainer	Strong perforated bucket strainer.

Spare parts outfit, Box A, available. 7/3

For Limewash, Creosote, Distemper, Insecticide, Disinfectant and general spraying.

Price **£13 3s. 9d.**

A wide range of other Bucket models is available from £10 16s. 6d. to £33 6s. 6d.

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Four Oaks Spraying Machine Co

Appendix 44 (5) Catalogue 1968

The Four Oaks
"WIZARD"

A very popular machine. Strong and well made, with swinging fulcrum on pump handle. Compact and easily carried.

Capacity	6 gallons.
Bucket	Very strong galvanized.
Pump	Double acting brass lever action.
Hose	10ft. ½in. high pressure oil resisting.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One for limewashing and one spraying.
Strainer	Strong perforated bucket strainer.

Automatic agitator can be supplied—(£2 0s. 3d. extra).
Armoured hose can be supplied.
Spare parts outfit, Box B, available. 8/9

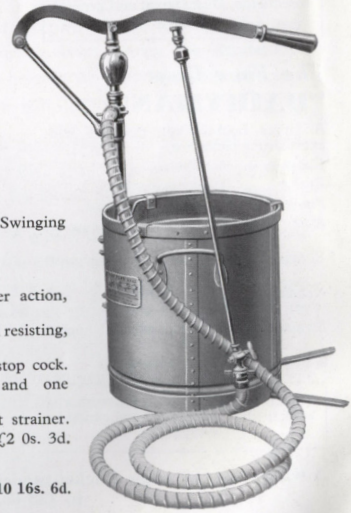
Price **£17 6s. 6d.**

The Four Oaks
"TRIUMPH"

An excellent machine for hard wear. Swinging fulcrum on pump.

Capacity	6 gallons.
Bucket	Very strong galvanized.
Pump	Double acting brass lever action, with air chamber.
Hose	10ft. ½in. high pressure oil resisting, plain.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One for limewashing and one spraying.
Strainer	Strong perforated bucket strainer.

Automatic agitator can be supplied—(£2 0s. 3d. extra).
Spare parts outfit, Box B, available. 8/9
Other Bucket Models available from £10 16s. 6d. to £33 6s. 6d.



Price **£18 2s. 6d.**

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Four Oaks Spraying Machine Co

Appendix 44 (6) Catalogue 1968

The Four Oaks "VICTOR"

A popular low-priced machine, available in two sizes, 6 gallon and 12 gallon, and can be supplied with iron wheel, solid rubber tyre or pneumatic tyre.

PRICES

"Victor" No. 1 (6 *galls.*)

with Iron Wheel	£25 7 6
with Solid Rubber Tyre ..	£27 12 9
with Pneumatic Tyre	£28 14 9

"Victor" No. 2 (12 *galls.*)

with Iron Wheel	£27 5 3
with Solid Rubber Tyre ..	£29 11 0
with Pneumatic Tyre	£30 14 0

Capacity	*Model No.* 1, 6 gallons. *Model No.* 2, 12 gallons.
Container	Galvanized and painted.
Pump	Double acting brass lever action with air chamber.
Hose	10ft. ¼in. high pressure oil resisting, 3-ply.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated strainer.

Spare parts outfit, Box B, available. **8/9**

Automatic agitator can be supplied—(£2 0s. 3d extra).

The Four Oaks "STAFFORD"

A powerful and reliable machine at a popular price. Pump and fittings instantly removed from container. Fitted with *automatic agitator*. Iron wheels or pneumatic tyres can be supplied.

Capacity	18 gallons.
Container	Heavy quality, galvanized and painted.
Pump	Easy working, powerful and specially well made, with automatic agitator.
Hose	12ft. ¼in. best quality oil resisting, high pressure, 3-ply.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated strainer.

Spare parts outfit, Box E, available. **14/6**

PRICES

with Iron Wheels	£51 1 3
with Pneumatic Tyres ..	£62 12 9

"STAFFORD JUNIOR"

A light-weight machine, and easy to use. In general design, similar to the "Stafford" above, but with lighter and smaller pump, and 12 gallon container. Iron wheels or pneumatic tyres available.

PRICES

with Iron Wheels	£44 2 3
with Pneumatic Tyres	£55 15 3

Spare parts outfit, Box C, available, **12/-**

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Four Oaks Spraying Machine Co

Appendix 44 (7) Catalogue 1968

The Four Oaks

"BRIDGWATER"

A world famous machine. The Rolls-Royce of manually operated sprayers. A most efficient and solidly constructed machine, specially designed for real hard wear under the most trying conditions. Fitted with *automatic agitator*. Available with iron wheels or pneumatic tyres.

Capacity	*Model No.* 1, 18 gallons. *Model No.* 2, 25/30 gallons.
Container	Heavy gauge galvanized and painted.
Pump	Special heavy duty brass pump, very powerful, with automatic agitator. Very large air chamber.
Hose	10ft. best quality, ½ in. high pressure oil resisting and armoured.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated brass.

The Four Oaks "Bridgwater" is undoubtedly one of the most efficient and strongest spraying machines ever made. Like all Four Oaks equipment it is hand-built by craftsmen, and it is built to last. The combination of power, efficiency and durability have given this machine a world-wide renown. We have had reports of these machines being in use for thirty years. The "Bridgwater" is suitable for all spraying and limewashing purposes, and can feed up to four hoses.

PRICES

	£	s.	d.		£	s.	d
"Bridgwater No. 1"				"Bridgwater No. 2"			
with Iron Wheels ..	58	11	3	*with Iron Wheels* ..	77	11	9
with Pneumatic Tyres ..	70	5	6	*with Pneumatic Tyres* ..	89	7	0
Spare parts outfit, Box D		14	6	*Spare parts outfit, Box F*		16	0

For Limewash, Creosote, Distemper, Insecticide, Disinfectant and all general spraying

An extensive range of wheeled machines is available from £25 7s. 6d. to £89 7s. 0d.

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Four Oaks Spraying Machine Co

Appendix 44 (8) Catalogue 1968

The Four Oaks
"ATTACHABLE" PUMP

A very powerful pump which can be attached to any container by means of three wing screws. Made in two sizes—No. 1 designed for use with one length of hose, lance and nozzle. No. 2 designed for use with one or two lengths of hose, lances and nozzles.

The pump assembly is of all brass construction with brass ball valves, large brass pressure chamber. All brass parts polished and lacquered. Double action pump with lever handle. Iron clamp, enamelled.

Suction hose, 1¼in. diameter, length 4ft., with suction strainer.

Delivery hose, 15ft. high pressure ½in. hose with polished brass spraying arm and tap.

Spare parts outfit for No. 1, Box J1 available. **12/-**
Spare parts outfit for No. 2, Box J2 available. **12/-**

Price. "Attachable" No. 1—**£20 18s. 6d.**
"Attachable" No. 2—**£26 11s. 0d.**

A smaller, lighter type of attachable pump, the "Southern Cross", is also available at **£13 6s. 0d.**

The Four Oaks
WATER BARROW

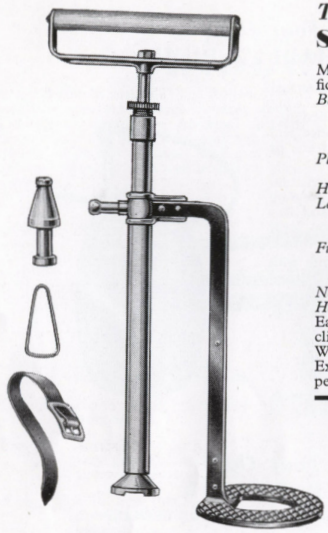
VERY USEFUL IN GARDEN, NURSERY OR ORCHARD

A high quality water carrier, very robust, and attractively finished. The heavy gauge container is very strong, and mounted on a first class chassis. Container is always horizontal. The wheels have 16in. x 4in. pneumatic tyres. The machine is well balanced. Colour is dark green with black wheels. A very useful tool.

Price. No. 1, capacity 20 gallons, complete with lid, **£17 0s. 0d.**
No. 2, capacity 30 gallons, complete with lid, **£19 10s. 0d.**

Four Oaks Spraying Machine Co

Appendix 44 (9) Catalogue 1968



The Four Oaks STIRRUP PUMP

Made to British Government Specification.

Barrel Brass tube ⅞in. diameter, with ⅜in. rubber protection tube, and fitted with brass suction valve and gland box.
Plunger Brass tube ⅝in. diameter, with all brass mechanism.
Handle Iron frame with 8in. wood grip.
Leg Iron foot with mild steel support, strongly fitted to pump.
Finish All exposed brass parts are lacquered. Iron parts finished black enamel.
Nozzle Standard jet nozzle.
Hose 6 feet of plain hose.

Each pump supplied with two wire hose clips, web strap and 6 feet of hose. Weight 5½ lb.
Extra hose available if required at 2s. 0d. per foot.

Price **£5 0s. 0d.**

The Four Oaks "COLONIAL"

A well made top quality all-brass pump with brass air chamber, giving excellent performance. The best pump of its kind.

Barrel Brass tube 1¼in. diameter, fitted strainer and brass valve.
Plunger Brass tube, ⅞in. diameter.
Handle Polished wood handle.
Leg Malleable iron clamped to barrel.
Nozzle No. 69 nozzle.
Finish All exposed brass parts are lacquered. Iron parts finished red enamel.
Strainer Efficient strainer and suction valve at bottom of barrel.
Hose 40in. plain ⅞in. hose.

Spare parts outfit, Box A, available. **7/3**

For Limewash, Creosote, Distemper Insecticide, Disinfectant and general spraying.

Price **£7 2s. 9d.**

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Four Oaks Spraying Machine Co

Appendix 44 (10) Catalogue 1968

The Four Oaks

"No. 90C" COPPER KNAPSACK

An efficient, robust, handsome, easy-working knapsack, with fine quality double-acting brass pump and top quality copper container at low cost.

Pump	Powerful double-acting brass pump.
Action	Very easy over-shoulder action. Swinging fulcrum. Right or left hand operation.
Container	Copper. Beautifully made by craftsmen. Strong and robust.
Capacity	3¼ gallons approximately.
Hose	3 feet good quality.
Spraying arm	"Four Oaks" trigger release lance.
Nozzle	"Marvellous" nozzle.
Shoulder straps	Good quality adjustable webbing.

For Insecticide, Disinfectant, Creosote, etc., and all washes except Liver of Sulphur, Lime Sulphur, and Sulphuric Acid.

UNIQUE ADVANTAGES OF THIS FINE MACHINE ARE:—

(1) "UNIT CONSTRUCTION". There are only two main units, container and pump, and the whole mechanism is sturdy, simple and trouble-free.

(2) First-class double-acting BRASS PUMP of "Four Oaks" design, giving fine performance and trouble-free service, and capable of dealing with fluids not usable in many types of knapsacks.

(3) The pump has a SWINGING FULCRUM, permitting immediate right or left hand operation without making any adjustments, and moving automatically to the position most comfortable to the operator. The pump handle design gives great leverage and a natural action, making the machine easy to work, and not tiring to the operator.

(4) The CONTAINER is COPPER, strong and robust, a real craftsman's job, and attractively finished. The shape, back rests and weight distribution are all arranged for maximum comfort. Capacity is approximately 3¼ gallons.

(5) This machine is STRONG, RELIABLE, COMFORTABLE AND EASY TO WORK. It is a good engineering design, and is made by craftsmen. It is ALL METAL with NO PLASTIC used. The PERFORMANCE is EXCELLENT for both volume and pressure.

Note re Limewashing

If you wish to use the machine for Limewashing, you must ask for a Rod and Tap and Special Limewashing Nozzle, which will then be supplied *in lieu* of the Trigger Release Lance and "Marvellous" nozzle without extra charge, or can be purchased in addition as extras if desired.

Price **£13 17s. 6d.**

KNAPSACK "No. 90N"

As above, but with best quality heavily galvanized steel container. Attractively finished in red and grey.

Price **£11 5s. 0d.**

page 9

The Four Oaks

PNEUMATIC "KENT" KNAPSACK

A very popular pneumatic type. The world's highest quality pneumatic sprayers. Available in three sizes. Well made to stand up to hard work. The liquid is poured into container and pressurized by self-contained pump.

"*Kent No.* 2"	Capacity 4 gals. (Working 3 gals.) Weight 18lb.
"*Kent No.* 4"	Capacity 2½ gals. (Working 2 gals.) Weight 13lb.
"*Kent No.* 6"	Capacity 1¼ gals. (Working 1 gal.) Weight 11lb.
Container	Special brass alloy.
Pump	Self-contained brass.
Hose	40in. best quality oil resisting.
Spraying arm	"Four Oaks" trigger release lance.
Nozzle	"Marvellous" or any "Four Oaks" nozzle (see back page).
Shoulder straps	Best quality adjustable webbing. Back rest.

Spare parts outfits, Boxes K.2, K.4, K.6. **14/6**

The machines are suitable for most chemicals including Liver of Sulphur and Lime Sulphur, but not Sulphuric. Also Creosote, Paraffin, etc.

Four Oaks "Kent" pneumatic sprayers have a world-wide reputation for reliability and efficiency in all climates and conditions. Their containers are constructed in special brass alloy, riveted at all joints to ensure maximum safety under pressure. Their design is the result of long experience and understanding of the needs of plantations, farmers, horticulturists and health organizations all over the world. Every machine is thoroughly tested before leaving our works, and is backed by our usual guarantee of good workmanship.

PRICES

	£	s.	d.
"Kent No. 2"	23	15	9
"Kent No. 4"	21	15	3
"Kent No. 6"	19	14	3
Spares outfits		14	6

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The Four Oaks
"ROSS" KNAPSACK

A very fine general purpose knapsack, the "Ross" has an internal brass pump of outstanding quality, quickly removable and easy working, and a light but robust tank.

Container	Strong painted galvanized iron. Available also in brass (see below).
Capacity	Approx. 3¼ gallons.
Hose	4ft., best quality oil resisting.
Nozzle	Woodford nozzle.
Spraying arm	"Four Oaks" Trigger release lance.
Pump	Brass, powerful and easy working with over-shoulder action.
Shoulder straps	Adjustable webbing.
Weight	Approx. 14 lb.

Can also be supplied with automatic agitator, £1 6s. 9d. extra.

Spare parts outfit, Box W, available. **14/6**

The Four Oaks "Ross" Knapsack is a world famous machine, and is sold in large numbers all over the world every year. Its many outstanding features make it suitable for innumerable uses.

The high quality brass pump has over-the-shoulder action and is very easy working. Being internal, it has no obstructions on the sides of the machine, which can pass through narrow spaces. It has an adequate air chamber, and gives a fine performance. The container is very strong and robust.

This machine is very efficient, light, low in cost, and strong, and is designed to give long trouble-free service.

It is interesting that this machine is named the "Ross" by permission of the late Sir Ronald Ross, and has a place in history through its part in the fight against malaria.

Price **£13 14s. 0d.**

OTHER PATTERNS

The "Ross" Knapsack can be supplied with automatic agitator at an extra cost of £1 6s. 9d.

THE "ROSS DE LUXE"

The "Ross de Luxe" is similar in principle and design, but has a brass container tinned inside for chemical resistance and enamelled iron bottom rim. It is available either with or without automatic agitator. Price **£18 9s. 0d.** Automatic Agitator £1 6s. 9d. extra.

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The Four Oaks
"101" KNAPSACK

Container	Polished and lacquered copper. Very large filling opening, with high quality strainer.
Capacity	3½ gallons approximately.
Pump	Powerful all brass pump with brass ball valves, with large fully adequate air-chamber.
Action	Very easy over-shoulder action.
Hose	40in. best quality oil resisting.
Spraying arm	"Four Oaks" trigger release lance.
Nozzle	"Marvellous" nozzle.
Shoulder straps	Best quality adjustable webbing, also webbing back rest.
Weight	15 lb. approximately.

Automatic agitator available if desired.

Spare parts outfit, Box H, available. **14/6**

THE OUTSTANDING ADVANTAGES OF THIS UNIQUE AND REMARKABLE MACHINE ARE:—

(1) "UNIT CONSTRUCTION". In accordance with modern engineering practice and "Four Oaks" policy the "101" is of unit construction. There are only two main parts, the container and the pump. Loosen 4 screws and the pump and the whole mechanism, which is extremely simple, lift out of the container. Large, fully adequate air chamber.

(2) It is the easiest of all knapsacks in operation, a tremendous advance.

(3) The pumping action is natural and does not tire the operator.

(4) The pump is a great advance on any knapsack pump produced hitherto. When standard nozzles are used, literally only finger pressure is required, but when more is asked of this pump, it will give greater outputs and higher pressures than any of its predecessors.

(5) The smooth action avoids any tendency for the container to rock on the operator's back, a defect of many knapsacks.

(6) The pump has double cup leathers, and positive action.

(7) The new tank, polished and lacquered best quality copper, is pleasing in appearance, shaped for comfort, and has a capacity of approximately 3½ gallons. Parts are picked out in attractive colours, red and grey.

(8) The very large filling opening is a valuable practical advantage. High quality strainer.

No. 101 (copper), for all washes except Liver of Sulphur, Lime Sulphur, and Sulphuric Acid. Price **£17 18s. 9d.**

No. 102 (tinned brass), for Lime Sulphur and Liver of Sulphur. Price **£19 0s. 0d.**

No. 103 (lead coated), for Sulphuric Acid. Special model, outside pump and air chamber. Price **£21 2s. 3d.**

Spare parts outfit, Box H, available. **14/6**

page 12

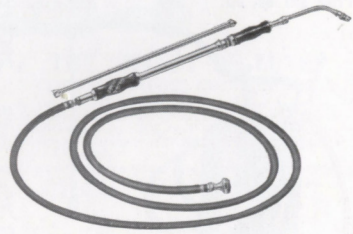
The Four Oaks

EXCELSIOR SUCTION SYRINGE

A strong, easy to operate suction syringe, supplied complete with 10ft. rubber hose, suction strainer, two nozzles (one fine, one coarse), extension lance, and bend. Gives a practically continuous spray. In the form illustrated the Excelsior is designed to draw spray liquid from a bucket or liquid storage tank.

Price **£5 4s. 9d.**

Also available with 3½ gallon knapsack container. See below.



The Four Oaks

KNAPSACK OUTFIT "No. 600"

Strong. Very low in price. An efficient general purpose sprayer.

A light, extremely low priced knapsack unit, very suitable for most general spraying purposes. Robust in construction, efficient in action.

The Knapsack Outfit "No. 600" consists of The "Excelsior" pump, used in conjunction with a strong galvanized steel liquid container of 3 gallon capacity. The result is an extremely efficient and reliable Knapsack sprayer, at remarkably low cost.

Price **£7 13s. 9d.**

Alternatively, the "Excelsior" pump can be supplied complete with a high quality Brass Knapsack container of 3½ gall. capacity.

Price **£13 6s. 3d.**

The Four Oaks
KNAPSACK "No. 501"

Price **£21 6s. 9d.**

The over-shoulder action makes this an easy working machine. Position of lever can be altered to right or left shoulder.

Container	Special brass alloy, tinned inside.
Capacity	Approx. 3½ gallons.
Pump	The powerful pump and air chamber instantly removable from container by releasing three thumb screws. All-brass pump with brass valves.
Hose	40in. best quality oil resistant hose.
Spraying arm	"Four Oaks" trigger release lance.
Nozzle	"Marvellous" or any "Four Oaks" nozzle (see back page).
Shoulder straps	Good quality adjustable webbing, and webbing back rest.
Weight	Approx. 15 lb.

Spare parts outfit, Box S, available. **20/-**

The machine is suitable for most chemicals including Liver of Sulphur and Lime Sulphur, but not Sulphuric. Also Creosote, Paraffin, etc.

The "501" is the highest quality Knapsack Sprayer made. Its superb construction and unrivalled performance have justly won the praise and admiration of users throughout the world. An automatic agitator can be fitted if required, £1 6s. 9d. extra.

The Four Oaks
"ROTADUSTO"

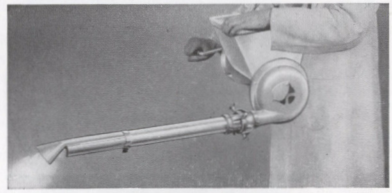
is a de luxe Powder Blower, most efficient, easy and comfortable to use, light yet strong, with many unique features of design and built to give lasting service.

Fan. The special Four Oaks design of fan gives a powerful blast.

Feed. The power is fed to the fan by a non-clogging spiral feed.

Agitation. The powder is *doubly agitated*, first by a rotating agitator and secondly by the spiral feed. Finally *the powder passes through the fan.*

Gears. The gears are machine cut from cast iron. The ratio is 60 : 1, which gives easy and smooth operation.



Hopper. The hopper is aluminium for lightness, and has an easily removable *lid with flanged sides to keep out rain or moisture.* The hopper is of large capacity. The weight it will hold varies with the powder, but it has capacity for 16 lb. of average powders.

Shoulder Straps. These are a Four Oaks pattern, and very comfortable.

Powder and Air Control. The powder output is variable by means of a simple slide control, and there is also an air inlet regulator.

Construction. The machine is manufactured mainly from cast aluminium, and combines lightness with strength.

Delivery Tube. The delivery tube can be moved up, down, right or left, and having been set remains in position.

Handle. The machine is operated by an adjustable handle which, with very efficient bearings and the 60 : 1 gear ratio, gives maximum ease and efficiency of working.

Price **£25 0s. 0d.** Extension piece **12s. 6d.** extra.

page 14

Four Oaks Spraying Machine Co

Appendix 44 (16) Catalogue 1968

The Four Oaks

HAND SPRAYERS

THE "MANEY DE LUXE"

GIVES CONTINUOUS ATOMIZED SPRAY

A superbly constructed *de luxe* model with special container of copper and special grip for ease of operation. Continuous spray. Capacity 1 pint. Supplied with two nozzles, one to spray at an angle. Detachable container. Price **£4 0s. 6d.**

Also available, the "Maney No. 4", similar to the "Maney de luxe", but with ten-inch long nozzle tube. Price **£4 13s. 9d.**

THE "STREETLY DE LUXE"

PNEUMATIC HAND SPRAYER

Brass alloy container with capacity of 2 quarts and working capacity of 3 pints. Liquid is first pressurized by means of the self-contained pump, and spraying is then automatic until liquid is exhausted. Nozzle adjusts to any angle. The conveniently positioned trigger, controlled by thumb pressure of the operator, ensures positive "on" and "off" control. Price **£8 1s. 0d.**

The "STREETLY" machine is also available, similar to the Streetly de Luxe, but having an "on" and "off" tap in place of the trigger control. Price **£7 9s. 0d.**

The Four Oaks

UNDENTABLE SYRINGES

HIGH QUALITY PRECISION PRODUCTS

The Four Oaks Undentable Syringes, an original, patented product of the company, are precision products, hand made individually by craftsmen with long experience in their manufacture. They are unique in quality and performance. There is no other syringe like them: they stand alone, and are treasured possessions of those who can appreciate a superb syringe. The outer corrugated sleeve protects the working barrel from dents, and gives great strength and a firm grip. They are supplied complete with jet and easy-fill ball valve, rose and spraying nozzle, and are offered in two sizes:

F.1 18in. x 1¼in. **£4 17s. 6d.** F.2 20in. x 1¼in. **£5 5s. 0d.**

A Movable Angle Joint is available at 16s. 3d.

page 15

Four Oaks Spraying Machine Co

Appendix 44 (17) Catalogue Circa 1968

MECHANIZED AND TRACTOR SECTION—(pages 16—23)

The Four Oaks

Electric

"LIMESPRAY"

Machine

Ideal for Limewashing and for use in Glass Houses and for all indoor spraying

PRICE

£125 ex works.

(Available also with four-stroke petrol engine at same price).

The new Four Oaks electric "LIMESPRAY" machine has been designed to fill a long felt need for a power operated machine specially suitable for limewash and similar applications and for all indoor spraying as in Glass Houses.

The container has a maximum capacity of approximately 28 gallons, the machine is mounted on pneumatic tyres, and a small jockey wheel at the rear enables it to be easily manoeuvred.

The electric motor, reduction gear and drive are mounted in a separate compartment under the domed cover on the top of the container, and are protected from the liquid. The pump is a brass piston pump of the highest quality, with large air chamber.

The motor fitted as standard is ¾ h.p. single phase, 230-250 volt, with switch on the side of the container, but for use underground and in other special conditions, a flame-proof motor with self-contained switch can be supplied. If required a small, four-stroke petrol engine can be fitted in place of the electric motor.

The machine is fitted with an adjustable relief valve which controls pressure, and with automatic mechanical agitation. Two lengths of hose, complete with lances and nozzles are supplied with each machine. This new Four Oaks machine has proved an outstanding success in use and is meeting a large hitherto unsatisfied demand.

page 16

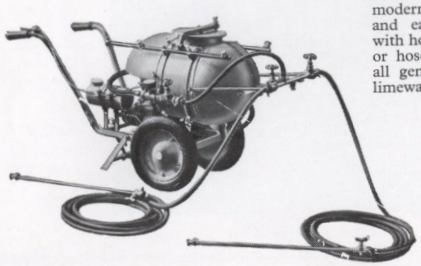
Four Oaks Spraying Machine Co

Appendix 44 (18) Catalogue Circa 1968

The

"POPULAR" MECHANIZED SPRAYER

BOOM AND HOSES



A handy little machine of most modern design. Light in weight and easy to handle. For use with horizontal or vertical booms or hose and lance. Suitable for all general spraying needs (not limewashing).

Price **£96 10s. 0d.**

Engine.	4-stroke, 118 c.c. model.
Fuel Tank.	Capacity 2 pints.
Fuel.	Petrol.
Pump.	High quality gear pump with phosphor bronze bearings.
Tank.	Galvanized and painted steel, capacity 6 gallons.
Filters.	Large strainer in tank. Efficient basket filter on side of machine—easily emptied and cleaned.
Agitation.	Efficient hydraulic agitation.
Pressure Gauge.	Good quality accurate pressure gauge.
Spray Boom.	6ft. wide, fitted nozzles, in three sections, carried on tank when not in use. Adjustable for height.
Nozzles.	Standard range of various nozzles available.
Hose.	One 20ft. length of high pressure hose.
Lance.	Polished brass 24in. trigger release lance.
Wheels.	Pressed steel on roller bearings, fitted pneumatic tyres size 12in. by 2in.

We reserve the right to make modifications and improvements and to substitute alternative components.

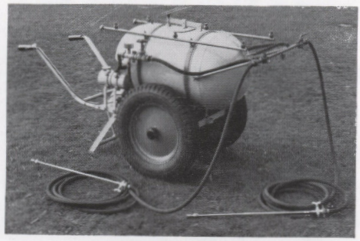
Four Oaks Spraying Machine Co

Appendix 44 (19) Catalogue Circa 1968

The

"SENIOR" MECHANIZED SPRAYER

BOOM AND HOSES



Price **£108 10s. 0d.**

A larger mechanized sprayer, greater tank capacity, longer boom and larger wheels. Ideal for all general spraying with horizontal or vertical booms or hoses and lances.

Engine.	4-stroke, 118 c.c. model.
Fuel Tank.	Capacity 2 pints.
Fuel.	Petrol.
Pump.	High quality gear pump with phosphor bronze bearings.
Tank.	Galvanized and painted steel, capacity 15 gallons.
Filters.	Large strainer in tank. Efficient basket filter on side of machine—easily emptied and cleaned.
Agitation.	Efficient hydraulic agitation.
Pressure Gauge.	Good quality accurate pressure gauge.
Spray Boom.	8ft. wide, fitted nozzles, in three sections, carried on tank when not in use. Adjustable for height.
Nozzles.	Standard range of various nozzles available.
Hose.	One 20ft. length of high pressure hose.
Lance.	Polished brass 24in. trigger release lance.
Wheels.	Pressed steel on roller bearings, fitted pneumatic tyres size 20in. by 4in.

We reserve the right to make modifications and improvements and to substitute alternative components.

page 18

Four Oaks Spraying Machine Co

Appendix 44 (20) Catalogue Circa 1968

The Four Oaks

"SPRAYMOBILE"

SELF PROPELLED Mechanized Sprayer

SPECIFICATION

COMPLETE WITH VERTICAL AND HORIZONTAL BOOMS HOSE AND LANCE

This entirely new machine—the first of its kind—is self propelled by means of a Villiers or similar 4-stroke engine, the same engine being used to operate the pump.

A three-speed gear box, with clutch and free-wheel is fitted as standard, enabling the machine to be used under the most difficult conditions, and on steep slopes. It is easily handled without effort. Freewheels enable it to be turned easily.

The folding spray boom is adjustable for height, and can be used as a horizontal boom or as vertical booms spraying outwards from each side of machine.

The normal working pressure is from 50 to 100 lb. p.s.i., and the pump is capable of supplying from one to four spraying lances.

Engine.	Villiers or similar 4-stroke.
Gear Box.	3-speed gear box with clutch.
Pump.	High quality ⅜in. gear pump with phosphor bronze bearings.
Tanks.	Two interconnected tanks, of approx. 12½ gallons, giving total capacity of 25 gallons. This is a patented feature giving perfect balance. A model with 55 gallons capacity is also available. (see below).
Filters.	Strainer in each tank, and basket filter on pump easily emptied and cleaned.
Agitation.	Efficient hydraulic agitation in each tank.
Pressure.	Adjustable by means of valve on pump, giving pressures up to approx. 100 lb. per sq. inch.
Boom.	9ft. in width with 7 nozzles giving spray width of approx. 10ft. 6in. Adjustable for height from 15in. to 28in. from ground.
Nozzles.	Standard range of various nozzles available.
Lance.	Polished brass 24in. trigger release lance.
Hose.	One 20ft. length of high pressure hose. Extra lengths to order.
Wheels.	Pressed steel wheels, fitted with pneumatic tyres 21in. diameter, "Dished" wheels give maximum width of 33in. and minimum of 27in.

Ground clearance approx. 6in. Overall height 3ft. 4in.

Price **£169 10s. 0d.**

"SPRAYMOBILE 55"

For a larger model of the Spraymobile with 55 gallon tank capacity, very efficient brakes and powerful Honda or similar 4-stroke engine please see page 20. Longer booms are also available on this model if customer so desires.

We reserve the right to make modifications and improvements and to substitute alternative components.

page 19

Four Oaks Spraying Machine Co

Appendix 44 (21) Catalogue Circa 1968

The Four Oaks
"SPRAYMOBILE 55"
SELF PROPELLED Mechanized Sprayer

The Four Oaks "Spraymobile 55" is a larger model of the famous "Spraymobile 25" and, as its name suggests, has a capacity of 55 gallons.

SPECIFICATION

The "Spraymobile 55" is illustrated above, and its specification is similar to that of the "Spraymobile" given on page 19, except for the differences listed below:—

Tanks.	Two interconnected tanks of approximately 27½ gallons capacity each, giving a total capacity of approximately 55 gallons. This is a patented feature giving perfect balance.
Brakes.	Very powerful brakes, fully adequate for all needs, operated by hand grip on handlebar giving immediate control at all times without moving hand from handlebar.
Engine.	Larger high power Honda or similar 4-stroke.
Booms.	These give approximately 11ft. spray width, but greater spray widths can be given if customer so desires.

Price **£218 10s. 0d.**

DRIVER'S TRUCK

An articulated truck for drivers, with motorcycle type seat and two wheels, is available for both the "Spraymobile 25" and "Spraymobile 55" at **£10 10s. 0d.**

We reserve the right to make modifications and improvements and to substitute alternative components.

page 20

Four Oaks Spraying Machine Co

Appendix 44 (22) Catalogue Circa 1968

The Four Oaks

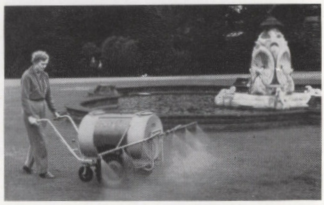
"SPRAYMOBILE"

SELF PROPELLED Mechanized Sprayer

For your high trees, up to 25 feet effective spraying

Vertical spray bars for tomatoes, raspberries, beans and other crops

For spraying in your orchard or garden



For lawns, drives or golf club greens, effective weed killing

The usual Four Oaks accessories such as Bamboo Lances, and a selection of nozzles can be supplied.
Ideal for the Grower; for selective weed killing on lawns and greens; for orchard work; for weed killing on drives, etc., and for row crop work. Not suitable for Limewash.

page 21

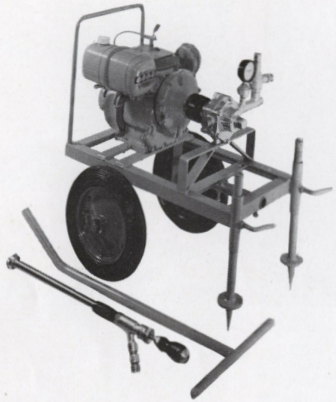
Four Oaks Spraying Machine Co

Appendix 44 (23) Catalogue Circa 1968

The Four Oaks

"POWERSPRAY"

A High Pressure Washing and Spraying Unit
Available in many forms



A GENERAL PURPOSE SPRAYER
or
A HIGH PRESSURE WASHER
for
CARS AND TRUCKS
BUILDINGS
STABLES
YARDS
SHEDS
FLOORS
TRACTORS AND IMPLEMENTS
suitable for
ALL INSECTICIDES
and
DISINFECTANTS

—

VARIABLE SPRAY OR JET

HIGH PRESSURE SPRAYING AND WASHING UNIT

Normally supplied as illustrated and described, but available with various forms of chassis, or as a mobile sprayer with its own built in tank of various capacities.

Specification:

POWER UNIT	4 stroke petrol	Pressure	275 p.s.i.
PUMP	Roller vane	Output per lance	80 g.p.h.
DRIVE	Direct flexible coupling between engine and pump	Horizontal reach Vertical reach	36 ft. 20 ft.
CHASSIS	Robust angle iron frame on 2 pneumatic wheels at front. 2 adjustable legs at rear. Detachable 'T' handle	O/A Weight	140 lbs.
SPRAY LANCE	1 high pressure brass spray gun, variable jet or spray	Length Width Height	33 ins. 20 ins. 29 ins.
HOSE	1 x 20 ft. h.p. delivery hose 1 x 10ft. h.p. suction hose 1 x 10ft. h.p. relief hose	Fittings	Pressure gauge and adjustable relief valve giving 0–275 p.s.i.

Price £175 ex works

(Additional spray gun and hose available if desired)

Mobile container illustrated on page 7 makes ideal companion

page 22

Four Oaks Spraying Machine Co

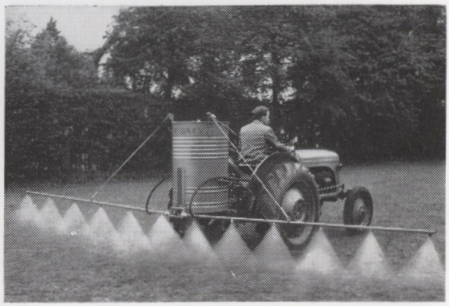
Appendix 44 (24) Catalogue Circa 1968

The Four Oaks

CROP SPRAYERS

8 MODELS AVAILABLE
(Hydraulic Lift Mounting and Trailer)

For **FORDSON** **NUFFIELD** **INTERNATIONAL**
FERGUSON **MONARCH** **ALLIS CHALMERS**
DAVID BROWN **Etc.**



TRACTOR MOUNTED UNITS

	Capacity	£	s.	d.
The "Shamrock" Tractor Mounted Unit Low Volume Model 333	40 gallons	84	3	0
The "Shamrock" Tractor Mounted Unit Medium/Low Volume Model 444	60 gallons	97	7	0
The "Shamrock" Tractor Mounted Unit High/Low Volume Model 555	60 gallons	127	1	0

TRACTOR TRAILER UNITS

	Capacity	£	s.	d.
The "Shamrock" Trailer Unit Low Volume Model 333T	40 gallons	112	4	0
The "Shamrock" Trailer Unit Medium/Low Volume Model 444T	60 gallons	125	19	0
The "Shamrock" Trailer Unit High/Low Volume Model 555T	60 gallons	155	2	0
The "Major-200" Trailer Model High/Low Volume with Mechanical Agitation, 40ft. boom folding to 6ft. 6in., heavy duty 1¼in. pump with twin pressure controls, self-filling through large filter under lid in which chemicals can be mixed	200 gallons	275	0	0
A model with 300 gallons capacity is also available	300 gallons	298	10	0

"SHAMROCK" JUNIOR MODEL 333

The smallest of the Four Oaks range but similar in construction to the 60 gallon machines. Fitted with a ½-in. pump—40 gallon heavy gauge galvanized and painted tank—16ft. boom giving spray width of approximately 17/18ft. Booms are adjustable for height, and swing back, if obstructed, returning to correct position. Booms can be raised or lowered individually from driver's seat. Four sets of nozzle tips are available giving 5, 10, 15 and 20 gallons per acre at 4 miles per hour.

STANDARD "SHAMROCK" MODEL 444

An improved model of the popular 60 gallon machine for Medium to Low volume application. Specially designed galvanized and painted container fitted with lid of full container size—instantly removed and replaced (Four Oaks Patent)—of a type found only on a Four Oaks machine, 18ft. boom giving spray width of approximately 20ft. Booms are adjustable for height, and swing back, if obstructed, returning to correct position. Booms can be raised or lowered individually from driver's seat.

Six sets of nozzles or nozzle tips are available, giving 5, 10, 15, 20, 30 and 40 gallons per acre at 4 miles per hour.

HIGH-LOW VOLUME "SHAMROCK" MODEL 555

For High, Medium or Low volume spraying. Similar in design and construction to Model 444, but fitted with special 1in. High volume pump. Nine sets of nozzles or nozzle tips are available, giving 5, 10, 15, 20, 30, 40, 60, 70 and 80 gallons per acre at 4 miles per hour.

TRAILER MODELS

Models 333, 444 and 555 can be supplied as Trailer Models at small extra cost. The trailer is so constructed that the standard machines can be bolted to the trailer and easily removed for use as an hydraulically mounted unit.

page 23

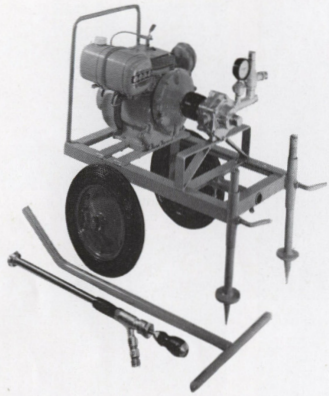
Four Oaks Spraying Machine Co

Appendix 44 (25) Catalogue Circa 1968

The Four Oaks

"POWERSPRAY"

A High Pressure Washing and Spraying Unit
Available in many forms



A GENERAL PURPOSE SPRAYER
or
A HIGH PRESSURE WASHER
for
CARS AND TRUCKS
BUILDINGS
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suitable for
ALL INSECTICIDES
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VARIABLE SPRAY OR JET

HIGH PRESSURE SPRAYING AND WASHING UNIT

Normally supplied as illustrated and described, but available with various forms of chassis, or as a mobile sprayer with its own built in tank of various capacities.

Specification:

POWER UNIT	4 stroke petrol	Pressure	275 p.s.i.
PUMP	Roller vane	Output per lance	80 g.p.h.
DRIVE	Direct flexible coupling between engine and pump	Horizontal reach Vertical reach	36 ft. 20 ft.
CHASSIS	Robust angle iron frame on 2 pneumatic wheels at front. 2 adjustable legs at rear. Detachable 'T' handle	O/A Weight	140 lbs.
SPRAY LANCE	1 high pressure brass spray gun, variable jet or spray	Length Width Height	33 ins. 20 ins. 29 ins.
HOSE	1 x 20 ft. h.p. delivery hose 1 x 10ft. h.p. suction hose 1 x 10ft. h.p. relief hose	Fittings	Pressure gauge and adjustable relief valve giving 0–275 p.s.i.

Price £175 ex works

(Additional spray gun and hose available if desired)

Mobile container illustrated on page 7 makes ideal companion

page 22

Four Oaks Spraying Machine Co

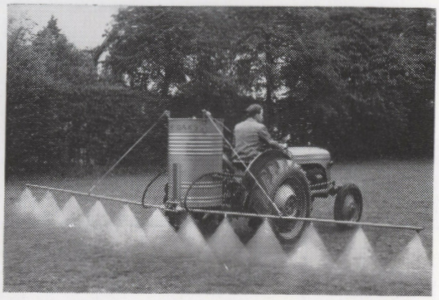
Appendix 44 (26) Catalogue Circa 1968

The Four Oaks

CROP SPRAYERS

8 MODELS AVAILABLE
(Hydraulic Lift Mounting and Trailer)

For **FORDSON** **NUFFIELD** **INTERNATIONAL**
FERGUSON **MONARCH** **ALLIS CHALMERS**
DAVID BROWN **Etc.**



TRACTOR MOUNTED UNITS

	Capacity	£	s.	d.
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TRACTOR TRAILER UNITS

	Capacity	£	s.	d.
The "Shamrock" Trailer Unit Low Volume Model 333T	40 gallons	112	4	0
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The "Major-200" Trailer Model High/Low Volume with Mechanical Agitation, 40ft. boom folding to 6ft. 6in., heavy duty 1¼in. pump with twin pressure controls, self-filling through large filter under lid in which chemicals can be mixed	200 gallons	275	0	0
A model with 300 gallons capacity is also available	300 gallons	298	10	0

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The smallest of the Four Oaks range but similar in construction to the 60 gallon machines. Fitted with a ¾-in. pump—40 gallon heavy gauge galvanized and painted tank—16ft. boom giving spray width of approximately 17/18ft. Booms are adjustable for height, and swing back, if obstructed, returning to correct position. Booms can be raised or lowered individually from driver's seat. Four sets of nozzle tips are available giving 5, 10, 15 and 20 gallons per acre at 4 miles per hour.

STANDARD "SHAMROCK" MODEL 444

An improved model of the popular 60 gallon machine for Medium to Low volume application. Specially designed galvanized and painted container fitted with lid of full container size—instantly removed and replaced (Four Oaks Patent)—of a type found only on a Four Oaks machine, 18ft. boom giving spray width of approximately 20ft. Booms are adjustable for height, and swing back, if obstructed, returning to correct position. Booms can be raised or lowered individually from driver's seat.

Six sets of nozzles or nozzle tips are available, giving 5, 10, 15, 20, 30 and 40 gallons per acre at 4 miles per hour.

HIGH-LOW VOLUME "SHAMROCK" MODEL 555

For High, Medium or Low volume spraying. Similar in design and construction to Model 444, but fitted with special 1in. High volume pump. Nine sets of nozzles or nozzle tips are available, giving 5, 10, 15, 20, 30, 40, 60, 70 and 80 gallons per acre at 4 miles per hour.

TRAILER MODELS

Models 333, 444 and 555 can be supplied as Trailer Models at small extra cost. The trailer is so constructed that the standard machines can be bolted to the trailer and easily removed for use as an hydraulically mounted unit.

page 23

Four Oaks Spraying Machine Co

Appendix 44 (27) - *Catalogue 1968 - Models and Prices from the Typical Products Catalogue*

Page No.	Model	Price	Spare Part Outfit
3	FARMER	£10.18.6	A - £0.7.3
3	DAIRYMAN	£13.3.6	A - £0.7.3
4	WIZARD	£17.6.6	B - £0.8.9
4	(Agitator extra)	£2.0.3	
4	TRIUMPH	£18.2.6	B - £0.8.9
5	VICTOR No. 1. Iron Wheels	£25.7.6	B - £0.8.9
5	VICTOR No. 1. Solid Rubber	£27.12.9	B - £0.8.9
5	VICTOR No. 1. Pneumatic	£28.14.9	B - £0.8.9
5	VICTOR No. 2. Iron Wheels	£27.5.3	B - £0.8.9
5	VICTOR No. 2. Solid Rubber	£29.11.0	B - £0.8.9
5	VICTOR No. 2. Pneumatic	£30.14.0	B - £0.8.9
5	STAFFORD Iron Wheels	£51.1.3	E - £0.14.9
5	STAFFORD Pneumatic Wheels	£62.12.9	E - £0.14.9
6	BRIDGWATER No. 1. Iron	£58.11.3	D - £0.14.6
6	BRIDGWATER No. 1. Pneumatic	£70.5.6	D - £0.14.6
6	BRIDGWATER No. 2. Iron	£77.11.9	D - £0.14.6
6	BRIDGWATER No. 2. Pneumatic	£89.7.0	D - £0.14.6
7	ATTACHABLE 1	£20.18.6	J1 - £0.12.0
7	ATTACHABLE 2	£26.11.0	J2 - £0.12.0
7	SYRINGE F1	£4.17.6	
7	SYRINGE F2	£5.5.0	
7	Moveable angle	£0.16.3	
8	STIRRUP PUMP	£5.0.0	
8	COLONIAL	£7.2.9	A - £0.7.3
9	KNAPSACK 90C	£13.17.6	
9	KNAPSACK 90N	£11.5.0	
10	KENT No. 2	£23.15.9	K2 - £0.14.6
10	KENT No. 4	£21.15.3	K2 - £0.14.6
10	KENT No. 6	£19.14.3	K2 - £0.14.6
11	ROSS	£13.14.0	W - £0.14.6
11	ROSS DE LUXE	£18.19.0	W - £0.14.6
12	KNAPSACK 101	£17.18.9	H - £0.14.6
12	KNAPSACK 102	£19.0.0	H - £0.14.6
12	KNAPSACK 103	£21.2.3	H - £0.14.6
13	EXCELSIOR	£5.4.9	
13	KNAPSACK 600	£7.13.9	
13	KNAPSACK 600 brass	£13.6.3	
14	KNAPSACK 501	£21.6.9	S - £1.0.0
14	ROTODUSTO	£25.0.0	
14	Extension	£0.12.6	
15	MANEY DE LUXE	£4.0.6	
15	MANEY No. 4	£4.13.9	
15	CHELSEA	£7.2.3	
15	STREETLEY	£7.9.0	
15	STREETLEY DE LUX	£8.1.0	
16	LIMESPRAY Electric	£125.0.0	
17	POPULAR	£96.10.0	
18	SENIOR	£108.10.0	

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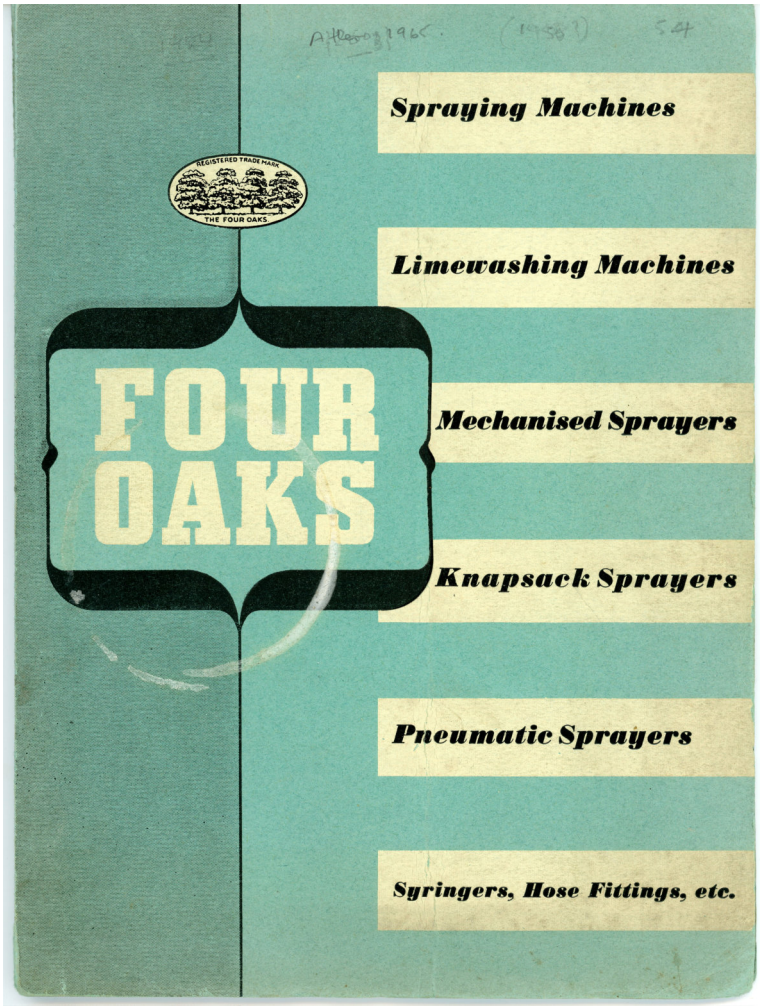
Four Oaks Spraying Machine Co

Appendix 44 (28) - *Catalogue 1968 - Models and Prices from the Typical Products Catalogue*

Page No.	Model	Price	Spare Part Outfit
19	SPRAYMOBILE 45	£169.10.0	
19	SPRAYMOBILE 55	£218.10.0	
19	Driver's Truck	£10.10.0.7.0	
23	SHAMROCK 333	£84.3.0	
23	SHAMROCK 444	£97.7.0	
23	SHAMROCK 555	£127.1.0	
23	SHAMROCK 333T	£112.4.0	
23	SHAMROCK 444T	£125.19.0	
23	SHAMROCK 555T	£155.2.0	
23	MAJOR 200	£275.0.0	
23	MAJOR 300	£298.10.0	
24	Nozzle 51	£0.11.9	
24	Nozzle 71	£0.16.3	
24	Nozzle 92 WOODFORD	£0.11.9	
24	Nozzle 83 HUMIDIFIERRD	£0.11.9	
24	T JET 10/20/30	£1.1.9	
24	MARVELLOUS 68	£0.11.9	
24	Nozzle 69	£14.3.0	
24	Tube Bend 41 (12 inch)	£0.10.6	
24	Lengthening Piece 42	£0.9.9	
24	Lengthening Piece 42a	£0.12.0	
24	Lengthening Piece 42b	£0.14.6	
24	Fork attachment 35	£0.19.3	
24	Trigger	£1.15.6	
24	Lance with Tap	£1.4.3	
24	Bamboo Lances 4ft	£2.1.6	
24	Bamboo Lances 6ft 6in	£3.8.6	
24	Bamboo Lances 8ft	£3.13.9	
24	Bamboo Lances 10ft 6in	£4.1.3	
24	Bamboo Lances 15ft	£5.1.9	
24	Swivel Nozzle No. 1	£1.2.3	
24	Blank Cap, Fine or Coarse Cap	£0.2.6	
24	Connecting Union No. 82	£0.8.0	

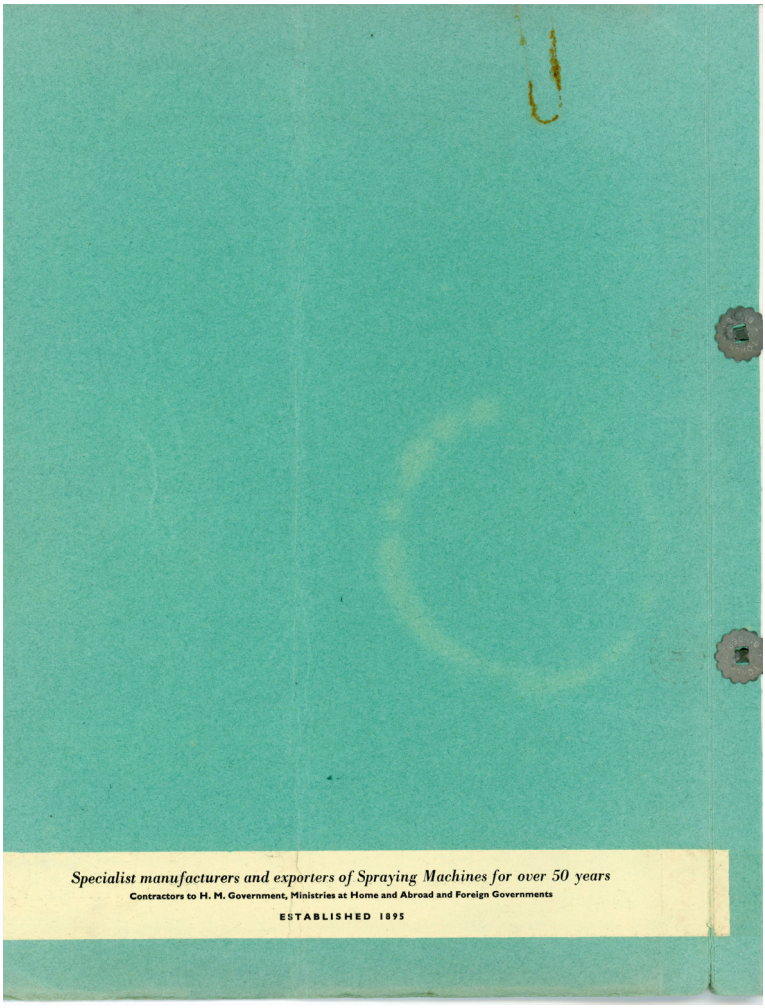
Four Oaks Spraying Machine Co

Appendix 45 (1) - [E56] *Catalogue post 1968 - Probably shorty before end of trading*



Four Oaks Spraying Machine Co

Appendix 45 (2) - *Catalogue post 1968 - Probably shorty before end of trading*



Four Oaks Spraying Machine Co

Appendix 45 (3) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

For well over 70 years, "Four Oaks" have manufactured specialised Spraying Equipment, and machines bearing the well-known trade mark are to be found in all parts of the world.

It has been the constant aim of the Company to build machines which can be relied upon to give good and lasting service under the most trying conditions, both at Home and Abroad.

All equipment is built "up to a quality" and not "down to a price", and yet it will be found that our prices are competitive.

In presenting our catalogue, we have endeavoured to give essential details of all machines together with illustrations, which unfortunately, do not always do justice to the machines themselves.

CONTENTS

This catalogue is divided into sections—each section covering one particular type of machine, and provision has been made for adding new sections when new machines are perfected by our Development Engineers.

Section	1	Spraying machines (4 to 10 galls.) without wheels.
„	2	„ „ (6 to 30 galls.) with wheels.
„	2a	Special "Universal" Machine.
„	3	Stirrup pumps, barrel pumps, etc.
„	4	Small hand machines. Syringes.
„	5	Knapsack machines and "Kent" on Truck.
„	5a	Nozzles, lances, booms, etc.
„	6	Flame Guns.
„	7	Hose, and hose fittings, etc.
„	8	Powder distributors.
„	9	Tractor Units.
„	10	Mechanized Sprayers, (6 - 300 gallon capacity).
„	11	Battery knapsack machines. Central Charge Pumps.
„	12	White Ant exterminators.
„	13	
„	14	

THE FOUR OAKS SPRAYING MACHINE CO LTD
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Four Oaks Spraying Machine Co

Appendix 45 (4) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks FARMER

A reliable and well made machine at a reasonable price.

Capacity	4 gallons.
Bucket	Fluted galvanized.
Pump	Double acting brass.
Hose	6ft. ¼" high pressure oil resisting.
Spraying arm	2ft. polished brass, with stop cock.
Nozzles	One lime-washing and one spraying.
Strainer	Strong perforated brass bucket strainer.

Spare parts outfit, Box A, available.

For Limewash, Creosote, Distemper Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see page 4 of this section.

The Four Oaks FARMER DE LUXE

A similar machine to the "Farmer", but with superior double acting brass pump with air chamber, and fitted with armoured hose.

Capacity	4 gallons.
Bucket	Fluted galvanized.
Pump	Double acting brass with air chamber.
Hose	6ft. ¼" high pressure oil resisting, armoured.
Spraying arm	2ft. polished brass, with stop cock.
Nozzles	One lime-washing and one spraying.
Strainer	Strong perforated brass bucket strainer.

Spare parts outfit, Box A, available.

For Limewash, Creosote, Distemper Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see page 4 of this section.

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Four Oaks Spraying Machine Co

Appendix 45 (5) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks DAIRYMAN

A larger bucket type machine with extra strong container.

Capacity	6 gallons.
Bucket	Heavy galvanized.
Pump	Double acting brass.
Hose	6ft. ¼" high pressure oil resisting.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One lime-washing and one spraying.
Strainer	Strong perforated brass bucket strainer.

Spare parts outfit, Box A, available.

For Limewash, Creosote, Distemper Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see page 4 of this section.

The Four Oaks DAIRYMAN DE LUXE

A similar machine to the "Dairyman" but with superior double acting brass pump with air chamber, and fitted with armoured hose.

Capacity	6 gallons.
Bucket	Heavy galvanized.
Pump	Double acting brass with air chamber.
Hose	6ft. ¼" high pressure oil resisting, armoured.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One lime-washing and one spraying.
Strainer	Strong perforated brass bucket strainer.

Spare parts outfit, Box A, available.

For Limewash, Creosote, Distemper Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see page 4 of this section.

THE FOUR OAKS SPRAYING MACHINE CO LTD
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Four Oaks Spraying Machine Co

Appendix 45 (6) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks WIZARD

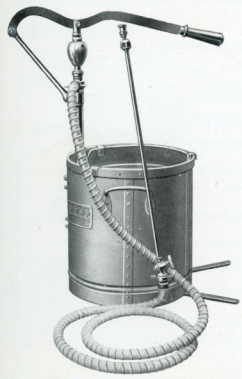
A very popular machine. Strong and well made, with swinging fulcrum on pump handle. Compact and easily carried.

Capacity	6 gallons.
Bucket	Very strong galvanized.
Pump	Double acting brass lever action.
Hose	10ft. ¼" high pressure oil resisting.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One for lime-washing and one spraying.
Strainer	Strong perforated brass bucket strainer.

Automatic agitator can be supplied
Armoured hose can be supplied.
Spare parts outfit, Box B, available.

For Limewash, Creosote, Distemper, Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, see page 4 of this section.



The Four Oaks TRIUMPH

An excellent machine for hard wear. Swinging fulcrum on pump.

Capacity	6 gallons.
Bucket	Very strong galvanized.
Pump	Double acting brass lever action, with air chamber.
Hose	10ft. ¼" high pressure oil resisting, armoured.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One for lime-washing and one spraying.
Strainer	Strong perforated brass bucket strainer.

Automatic agitator can be supplied.
Spare parts outfit, Box B, available.

For Limewash, Creosote, Distemper Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc. see page 4 of this section.

THE FOUR OAKS SPRAYING MACHINE CO LTD
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Appendix 45 (7) - *Catalogue post 1968 - Probably shorty before end of trading*

SECTION 1 PAGE 4

"Four Oaks the Best"

The Four Oaks ROCHESTER

A very efficient bucket type machine fitted as standard with *automatic agitator*. Easy working pump.

Capacity	10 gallons.
Container	Heavy quality galvanized
Pump	Double action brass lever action.
Hose	12ft. best quality ½" hose.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	Lime-washing and spraying nozzles.
Strainer	Strong perforated brass strainer in container.

Armoured hose can be supplied.
Spare parts outfit, Box C, available.

For Limewash, Creosote, Distemper, Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, etc., see below.

NOZZLES AND ACCESSORIES FOR USE WITH MACHINES IN THIS SECTION

"Four Oaks" Unchokable Nozzle No. 71
For very thick liquids. Recommended for thick limewash or similar. Self-cleaning.

'Four Oaks" No. 69
The nozzle for any thick washes. Cleared instantly by pressing the top, without unscrewing.

Tube Bend. No. 41
12in. long.

Lengthening Piece
No. 42, 42a & 42b
12in., 24in. & 36in. long

"Four Oaks" Humidifying Nozzle No. 93
For very fine sprays only (not for thick liquids).

"Four Oaks" Movable Angle Joint No. 43
Stays in any position. Enables operator to spray at difficult angles.

"Four Oaks" Trigger Release Lance
Overall length 2ft.
Curved and straight (not for limewashing)

"Four Oaks" Nozzle No. 51
Gives a fine spray, suitable for trees or disinfecting. Remove inner cap to obtain straight jet.

The "Four Oaks" Marvellous Nozzle No. 68
Gives a wide cloud of spray 3 feet across.

Standard Brass Lance with Tap, 2ft. long
As supplied with all our machines without extra charge.

"Four Oaks" Woodford Nozzle No. 92
Gives a fine spray, specially good for oily liquids. With two tips, fine and coarse.

"Four Oaks" long Tubes for Lime-washing high walls or spraying tall trees
"FOUR OAKS" Bamboo Lances, with interior brass tube, stop cock and all fittings, except nozzle.
In one piece : 4ft., 6ft. 6in., 8ft., 10ft. 6in. In two pieces : 15ft.

"Four Oaks" Double Swivel Nozzle No. 94
Convertible into single jet, and supplied with three sets of caps giving fine, medium and coarse spray, also blank cap.

Connecting Union No. 82
For joining together two lengths of ½in. hose.

Extra lengths of ½in. Rubber Tubing
6ft. length *complete with unions*
10ft. length, do.
15ft. length, do.

Four Oaks Spraying Machine Co

Appendix 45 (8) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks VICTOR

A popular low priced machine, available in two sizes, 6 gallon and 12 gallon, and can be supplied with *iron* wheel, *solid rubber tyre* or *pneumatic tyre*.

Capacity	*Model No.* 1, 6 gallons. *Model No.* 2, 12 gallons.
Container	Galvanized and painted.
Pump	Double acting brass lever action with air chamber.
Hose	10ft. ½" high pressure oil resisting. 3-ply.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated brass.

Automatic agitator can be supplied.

Spare parts outfit, Box B, available.

For Limewash, Creosote, Distemper, Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, see page 4 of this section.

The Four Oaks HANDY

A well made and serviceable machine. Pump and fittings instantly detached from container. Easy working pump, fitted with *automatic agitator*. Light and handy. Iron wheel, solid rubber or pneumatic tyre available.

Capacity	12 gallons.
Container	Galvanized and painted.
Pump	Solidly constructed brass lever action with automatic agitator.
Hose	10ft. best quality high pressure, 3-ply, oil resisting.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated brass.

Spare parts outfit, Box C. available.

For Limewash, Creosote, Distemper Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see page 4 of this section.

THE FOUR OAKS SPRAYING MACHINE CO LTD
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Appendix 45 (9) - *Catalogue post 1968 - Probably shorty before end of trading*

SECTION 2 PAGE 2

"Four Oaks the Best"

The Four Oaks LITTLE GIANT

A similar machine to the "Handy", but mounted on two wheels. Iron wheels, solid rubber, or pneumatic tyres available.

Capacity	12 gallons.
Container	Galvanized and painted.
Pump	Solidly constructed brass lever action with automatic agitator.
Hose	10ft. best quality high pressure, 3-ply, oil resisting.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated brass.

Spare parts outfit, Box C, available.

For Limewash, Creosote, Distemper, Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, see page 4 of this section.

The Four Oaks STAFFORD JUNIOR

A light-weight machine, and easy to use. In general design, similar to the "Stafford" on next page, but with lighter and smaller pump, and smaller container. Iron wheels or pneumatic tyres available.

Capacity	12 gallons.
Container	Galvanized and painted.
Pump	Easy working brass with automatic agitator.
Hose	12ft. ¼" oil resisting, 3-ply, high pressure.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated brass.

Spare parts outfit, Box C, available.

For Limewash, Creosote, Distemper Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see page 4 of this section.

THE FOUR OAKS SPRAYING MACHINE CO LTD
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Four Oaks Spraying Machine Co

Appendix 45 (10) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks STAFFORD

A powerful and reliable machine at a popular price. Pump and fittings instantly removed from container. Fitted with *automatic agitator*. Iron wheels or pneumatic tyres can be supplied.

Capacity	18 gallons.
Container	Heavy quality, galvanized and painted.
Pump	Easy working, powerful and specially well made, with automatic agitator.
Hose	12ft. ½" best quality, oil resisting, high pressure, 3-ply.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated brass.

Spare parts outfit, Box E, available.

For Limewash, Creosote, Distemper, Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, see page 4 of this section.

The Four Oaks CHALLENGER

Specially narrow guage, width of tank only 14in. Designed for use in narrow and confined spaces. Fitted with *automatic agitator*. Pump and fittings instantly removed from container. Iron wheel or pneumatic type available.

Capacity	12 gallons.
Container	Well made, galvanized and painted.
Pump	Brass, strong and powerful with automatic agitator.
Hose	15ft. best quality ½" armoured, oil resisting, 3-ply.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated brass.

Spare parts outfit, Box E, available.

For Limewash, Creosote, Distemper Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see page 4 of this section.

THE FOUR OAKS SPRAYING MACHINE CO LTD
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Four Oaks Spraying Machine Co

Appendix 45 (11) - *Catalogue post 1968 - Probably shorty before end of trading*

SECTION 2 PAGE 4

"Four Oaks the Best"

The Four Oaks BRIDGWATER

A most efficient and solidly constructed machine, specially designed for real hard wear under the most trying conditions. Fitted with *automatic agitator*. Available with iron wheels or pneumatic tyres.

Capacity	*Model No.* 1, 18 gallons. *Model No.* 2, 25/30 gallons.
Container	Heavy gauge galvanized and painted.
Pump	Special heavy duty brass pump, very powerful, with automatic agitator.
Hose	10ft. best quality, ½" high pressure oil resisting and armoured.
Spraying arm	2ft. polished brass with stop cock.
Nozzles	One limewash and one spraying.
Strainer	Strong perforated brass.

Spare parts outfit, Box D, available.

For Limewash, Creosote, Distemper, Snow-cem, Insecticide, Disinfectant and general spraying.

For special accessories, etc., see below.

NOZZLES AND ACCESSORIES FOR USE WITH MACHINES IN THIS SECTION

"Four Oaks" Unchokable Nozzle No. **71**
For very thick liquids. Recommended for thick limewash or similar. Self-cleaning.

"Four Oaks" No. 69
The nozzle for any thick washes. Cleared instantly by pressing the top, without unscrewing.

Tube Bend. No. **41**
12in. long.

Lengthening Piece
No. **42**, **42a** & **42b**
12in., 24in. & 36in. long

"Four Oaks" Humidifying Nozzle No. **93**
For very fine sprays only (not for thick liquids).

"Four Oaks" Movable Angle Joint No. **43**
Stays in any position. Enables operator to spray at difficult angles.

"Four Oaks" Trigger Release Lance
Overall length 2ft.
Curved and straight (not for limewashing)

"Four Oaks" Nozzle No. **51**
Gives a fine spray, suitable for trees or disinfecting. Remove inner cap to obtain straight jet.

The "Four Oaks" Marvellous Nozzle No. **68**
Gives a wide cloud of spray 3 feet across.

Standard Brass Lance with Tap, 2ft. long
As supplied with all our machines without extra charge.

"Four Oaks" Woodford Nozzle No. **92**
Gives a fine spray, specially good for oily liquids. With two tips, fine and coarse.

"Four Oaks" long Tubes for Lime-washing high walls or spraying tall trees
"FOUR OAKS" Bamboo Lances, with interior brass tube, stop cock and all fittings, except nozzle.
In one piece : 4ft., 6ft. 6in., 8ft., 10ft. 6in. In two pieces : 15ft.

"Four Oaks" Double Swivel Nozzle No. **94**
Convertible into single jet, and supplied with three sets of caps giving fine, medium and coarse spray, also blank cap.

Connecting Union No. **82**
For joining together two lengths of ¼in. hose.

Extra lengths of ¼in. Rubber Tubing
6ft. length *complete with unions*
10ft. length, do.
15ft. length, do.

Four Oaks Spraying Machine Co

Appendix 45 (12) - *Catalogue post 1968 - Probably shorty before end of trading*

Four Oaks Spraying Machine Co

Appendix 45 (13) - *Catalogue post 1968 - Probably shorty before end of trading*

SECTION 2A PAGE 2

The Four Oaks Universal

The design incorporates special modifications of the famous Four Oaks "Wizard" Pump, proved over many years supreme for spraying, white-washing and creosoting, and of the new Four Oaks "Mobiliser Truck". The Universal is strong yet light—designed to be operated with ease by a lady.

It is unique in its many uses, a very clever design and special production methods enable us to offer the Universal as the lowest priced machine on two wheels we make.

TRUCK (4)

MOBILE ALL PURPOSES PUMP (WITH ACCESSORIES) (3)

WATER CARRIER (6)

1 The Universal, as illustrated in photographs (1) and (2), for all purposes except as a water carrier - - - £

2 Special Unspillable Container with tap for use as water carrier, photograph (6). £

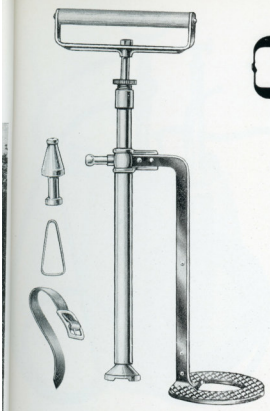
3 Additional Special Black Container for creosoting, photograph (3). - £

4 Special Grid for carrying large sacks, photograph (5) - - - £

Four Oaks Spraying Machine Co

Appendix 45 (14) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

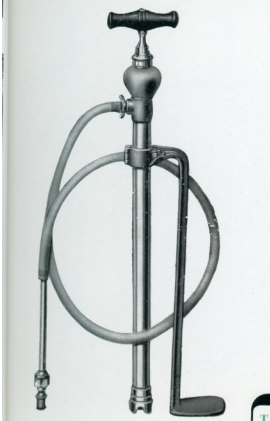


STIRRUP PUMP

Made to British Government Specification.

Barrel	Brass tube $\frac{3}{8}$" diameter, with $\frac{3}{16}$" rubber protection tube, and fitted with brass suction valve and gland box.
Plunger	Brass tube $\frac{9}{16}$" diameter, with all brass mechanism.
Handle	Iron frame with 8" wood grip.
Leg	Iron foot with mild steel support, strongly fitted to pump.
Finish	All exposed brass parts are lacquered. Iron parts finished black enamel.
Nozzle	Standard plastic, jet nozzle.

Each pump supplied with two wire hose clips and web strap. Weight 5¾ lbs.
Hose available if required.



The Four Oaks COLONIAL

A well made all brass pump with brass air chamber.

Barrel	Brass tube ⅜" diameter, fitted strainer and brass valve.
Plunger	Brass tube, 1¼" diameter.
Handle	Polished wood handle.
Leg	Malleable iron clamped to barrel.
Nozzle	No. 69 nozzle.
Finish	All exposed brass parts are lacquered. Iron parts finished red enamel.
Strainer	Efficient strainer and suction valve at bottom of barrel.
Hose	40' plain ⅜" hose.

Spare parts outfit, Box A, available.

For Limewash, Creosote, Distemper, Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see page 3 of this section.

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
Telegrams "Sprayers", Four Oaks Telephone Four Oaks 305 & 1560

Four Oaks Spraying Machine Co

Appendix 45 (15) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks YENTON

Similar to the "Colonial", but with suction hose. Very well made.

Barrel	Brass tube ¾" diameter, fitted strainer and brass valve.
Plunger	Brass tube, 1¼" diameter.
Handle	Polished wood handle.
Leg	Malleable iron clamped to barrel.
Nozzle	No. 69 nozzle.
Finish	All exposed brass parts are lacquered. Iron parts finished red enamel.
Strainer	Brass suction strainer fitted into suction hose.
Hose	10ft. suction hose and 4ft. ¾" delivery hose.
Spraying arm	2ft. polished brass with separate bend.

Spare parts outfit, Box A, available.

For Limewash, Creosote, Distemper, Snowcem, Insecticide, Disinfectant and general spraying

For special accessories, long lances, etc., see page 3 of this section.

The Four Oaks SOUTHERN CROSS

A very useful assembly which can be attached to any container by means of two thumb screws. Can be easily dismantled and packed into a small space.

The fulcrum on pump handle, enables operator to stand in any position.

The powerful pump is double acting, all brass construction with air chamber, and lever handle.

Armoured *suction* hose, 2ft. in length, complete with strainer.

Delivery hose, 6ft. length high pressure armoured, with polished brass spraying arm. Two nozzles supplied.

Spare parts outfit, Box G, available.

For Limewash, Creosote, Distemper, Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see page 3 of this section.

THE FOUR OAKS SPRAYING MACHINE CO LTD
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Four Oaks Spraying Machine Co

Appendix 45 (16) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks ATTACHABLE

A very powerful pump which can be attached to any container by means of three wing screws. Made in two sizes—No. 1 designed for use with one length of hose, lance and nozzle. No. 2 designed for use with one or two lengths of hose, lances and nozzles.

The pump assembly is of all brass construction, with brass ball valves, large brass pressure chamber. All brass parts polished and lacquered. Double action pump with lever handle. Iron clamp, enamelled.

Suction hose, 1¼" diameter reinforced wire, length 4ft., with suction strainer.

Delivery hose, 15ft. high pressure ½" hose with polished brass spraying arm and tap.

Spare parts outfit for No. 1, Box J.1. available.

Spare parts outfit for No. 2, Box J.2. available.

For Limewash, Creosote, Distemper, Snowcem, Insecticide, Disinfectant and general spraying.

For special accessories, long lances, etc., see below.

NOZZLES AND ACCESSORIES FOR USE WITH MACHINES IN THIS SECTION

"Four Oaks" Unchokable Nozzle
No. 71
For very thick liquids. Recommended for thick limewash or similar. Self-cleaning.

'Four Oaks'
No. 69
The nozzle for any thick washes. Cleared instantly by pressing the top, without unscrewing.

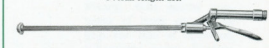
Tube Bend. No. 41
12in. long.

Lengthening Piece
No. 42, 42a & 42b
12in., 24in. & 36in. long

"Four Oaks" Humidifying Nozzle
No. 93
For very fine sprays only (not for thick liquids).

"Four Oaks" Movable Angle Joint
No. 43
Stays in any position. Enables operator to spray at difficult angles.

"Four Oaks" Trigger Release Lance
Overall length 2ft.



Curved and straight (not for limewashing)

"Four Oaks" Nozzle
No. 51
Gives a fine spray, suitable for trees or disinfecting. Remove inner cap to obtain straight jet.

The "Four Oaks" Marvellous Nozzle
No. 68
Gives a wide cloud of spray 3 feet across.

Standard Brass Lance with Tap, 2ft. long

As supplied with all our machines without extra charge.

"Four Oaks" Woodford Nozzle
No. 92
Gives a fine spray, specially good for oily liquids. With two tips, fine and coarse.

"Four Oaks" long Tubes for Lime-washing high walls or spraying tall trees

"FOUR OAKS" Bamboo Lances, with interior brass tube, stop cock and all fittings, except nozzle.
In one piece : 4ft., 6ft. 6in., 8ft., 10ft. 6in. In two pieces : 15ft.

"Four Oaks" Double Swivel Nozzle
No. 94
Convertible into single jet, and supplied with three sets of caps giving fine, medium and coarse spray, also blank cap.

Connecting Union
No. 82
For joining together two lengths of ½in. hose.

Extra lengths of ½in. Rubber Tubing
6ft. length *complete with unions*
10ft. length, do.
15ft. length, do.

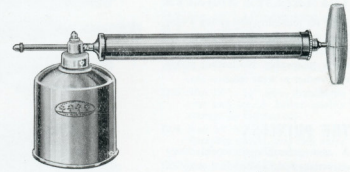
Four Oaks Spraying Machine Co

Appendix 45 (17) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

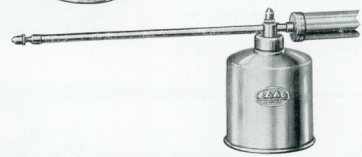
THE MANEY SPRAYER

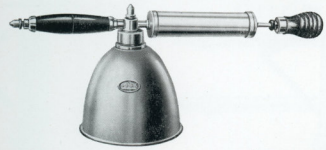
A well made little machine. Capacity 1 pint. Brass or copper container. Brass pump assembly. Gives fine atomized spray. Detachable container. Two nozzles, straight and up or down. Continuous spray.



THE MANEY No. 3

Similar to above, but with long nozzle tube and two nozzles. A very useful sprayer.





THE MANEY DE LUXE

A de luxe model of the Maney, with special container of brass and special grip for ease of operation. Continuous spray. Capacity 1 pint. Supplied with two nozzles. Detachable container.

THE MANEY No. 4

Similar to the Maney de Luxe but having long nozzle tube.

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Four Oaks Spraying Machine Co

Appendix 45 (18) - *Catalogue post 1968 - Probably shorty before end of trading*

SECTION 4 PAGE 2

"Four Oaks the Best"

THE CHELSEA SPRAYER

Built for reliability and giving a very fine spray. Special brass alloy. Capacity approx. 3 pints. Every part easily removable. No leather piston rod washer to wear out.

THE PRINCESS

A new streamlined model, very attractive, and finished in a range of pastel colours, green, white, blue, primrose, etc. A beautiful little sprayer.

THE STREETLY

Brass alloy container with capacity of 2 quarts and working capacity of 3 pints. Liquid is first pressurized by means of the self-contained pump, and spraying is then automatic until liquid is exhausted. Nozzle adjusts to any angle.

THE STREETLY DE LUXE

Similar to the Streetly, but having positive "on" and "off" controlled by thumb pressure of operator.

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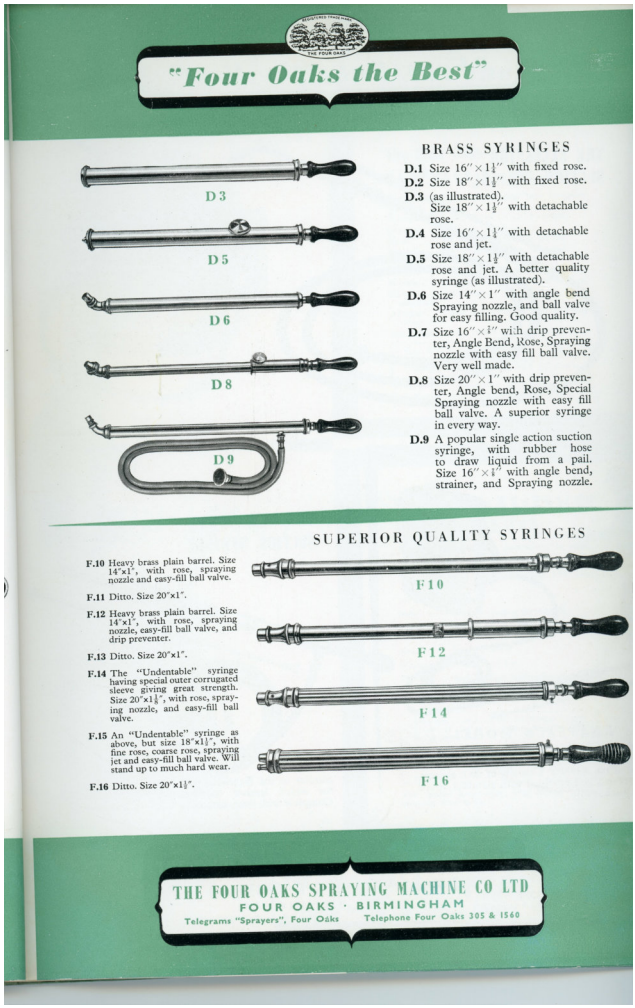
Four Oaks Spraying Machine Co

Appendix 45 (19) - *Catalogue post 1968 - Probably shorty before end of trading*



Four Oaks Spraying Machine Co

Appendix 45 (20) - *Catalogue post 1968 - Probably shorty before end of trading*

Four Oaks Spraying Machine Co

Appendix 45 (21) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks KNAPSACK No. 90

A good quality internal-pump type knapsack machine.

Container	Polished and lacquered copper.
Capacity	Approx. 3½ gallons.
Hose	3ft. good quality, oil resisting.
Spraying arm	2ft. Polished brass, with tap.
Strainer	Removeable, fitted inside lid.
Nozzle	Double swivel nozzle or Woodford.
Pump diaphram	Oil resistant.
Shoulder straps	Good quality adjustable webbing.

Spare parts outfit, Box K.1, available.

For Insecticide, Disinfectant, Creosote, etc., and all washes except Liver of Sulphur, Lime Sulphur, and Sulphuric Acid.

For special accessories, long lances, etc., see Section 5a.

The Four Oaks KNAPSACKS Nos. 101, 102, 103

Three types available as illustration, see below.

Capacity	Approx. 3½ gallons.
Pump	Strong all brass pump with brass ball valves.
Air chamber	Brass.
Hose	40" best quality oil resisting.
Spraying arm	Polished brass, 2ft., with tap.
Nozzle	Double swivel.
Weight	Approx. 15 lbs.
Shoulder straps	Best quality adjustable webbing, also webbing back rest.

Spare parts outfit, Box H, available.

No. 101 (Copper), for all washes except Liver of Sulphur, Lime Sulphur and Sulphuric Acid.
No. 102 (Tinned Copper), for Lime Sulphur and Liver of Sulphur.
No. 103 (Lead Coated), for Sulphuric Acid.

For special accessories, long lances, nozzles, etc., see Section 5a.

THE FOUR OAKS SPRAYING MACHINE CO LTD
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Four Oaks Spraying Machine Co

Appendix 45 (22) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks KNAPSACK No. 501

The over-shoulder action makes this an easy working machine. Position of lever can be altered to right or left shoulder.

Container	Special brass alloy, tinned inside.
Capacity	Approx. 3½ gallons.
Pump	The special pump and air chamber instantly removeable from container by releasing three thumb screws. All brass pump with brass valves.
Hose	40" best quality hose.
Spraying arm	2ft. Polished brass, with tap.
Nozzle	Double swivel nozzle.
Shoulder straps	Good quality adjustable webbing, and webbing back rest.
Weight	Approx. 15 lb.

Automatic agitator available if required.
Spare parts outfit, Box S, available.

The machine is suitable for most chemicals including Liver of Sulphur and Lime Sulphur, but not Sulphuric. Also Creosote, Paraffin, etc.

For special accessories, long lances, nozzles, etc., see Section 5a.

The Four Oaks ROSS KNAPSACK

Specially designed for Anti-Malarial work, this machine is also suitable for other purposes. The late Sir Ronald Ross gave permission for this machine to be named the "Ross".

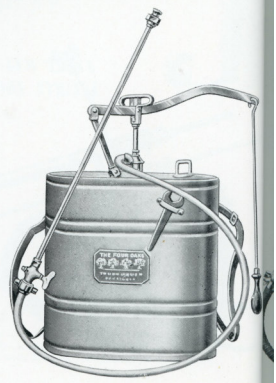
Container	Strong galvanized iron.
Capacity	Approx. 3½ gallons.
Hose	4ft., oil resisting.
Nozzle	Woodford nozzle.
Spraying arm	2ft. Polished brass, with tap.
Pump	Brass, with over-shoulder action.
Shoulder straps	Adjustable webbing.
Weight	Approx. 14 lb.

Can also be supplied with automatic agitator.

Spare parts outfit, Box W, available.

The **Ross de Luxe** is also available, similar in principle and design, but with brass container and enamelled iron bottom rim.

For special accessories, etc., see Section 5a.



THE FOUR OAKS SPRAYING MACHINE CO LTD
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Four Oaks Spraying Machine Co

Appendix 45 (23) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks
WEEFORD KNAPSACK

A pneumatic type machine. Air first, and then liquid is pumped into the container. Spraying is then automatic until liquid has been used, but the air pressure remains.

Container	Special brass alloy.
Capacity	Working capacity 3 gallons.
Hose	40" ¼" armoured hose and 4ft. suction hose with strainer.
Nozzle	Double swivel.
Pressure gauge	Maximum working pressure indicated.
Spraying arm	2ft. Polished brass.
Pump	Very efficient self-contained pump, brass.
Shoulder straps	Best quality adjustable webbing. Back rest.
Weight	Approx. 17 lb.

Spare parts outfit, Box R, available.

The machine is suitable for most chemicals including Liver of Sulphur and Lime Sulphur, but not Sulphuric. Also Creosote, Paraffin, etc.

For special accessories, etc., see Section 5a.

The Four Oaks
KENT KNAPSACK

A very popular pneumatic type. Available in three sizes. Well made to stand up to hard work. The liquid is poured into container and pressurized by self-contained pump.

Kent No. 2.	Capacity 4 gals. (Working 3 gals.) Weight 18 lb.
Kent No. 4.	Capacity 2½ gals. (Working 2 gals.) Weight 13 lb.
Kent No. 6.	Capacity 1½ gals. (Working 1 gal.) Weight 11 lb.
Container	Special brass alloy.
Pump	Self-contained brass.
Hose	40" best quality armoured.
Spraying arm	2ft. Polished brass, with tap.
Nozzle	Double swivel.
Shoulder straps	Best quality adjustable webbing. Back rest.

Spare parts outfits, Boxes K.2, K.4, K.6.

The machine is suitable for most chemicals including Liver of Sulphur and Lime Sulphur, but not Sulphuric. Also Creosote, Paraffin, etc.

For special accessories, etc., see Section 5a.

See next page for details of special
MOBILIZER TRUCK
for use with Kent No. 2 Machine.

THE FOUR OAKS SPRAYING MACHINE CO LTD
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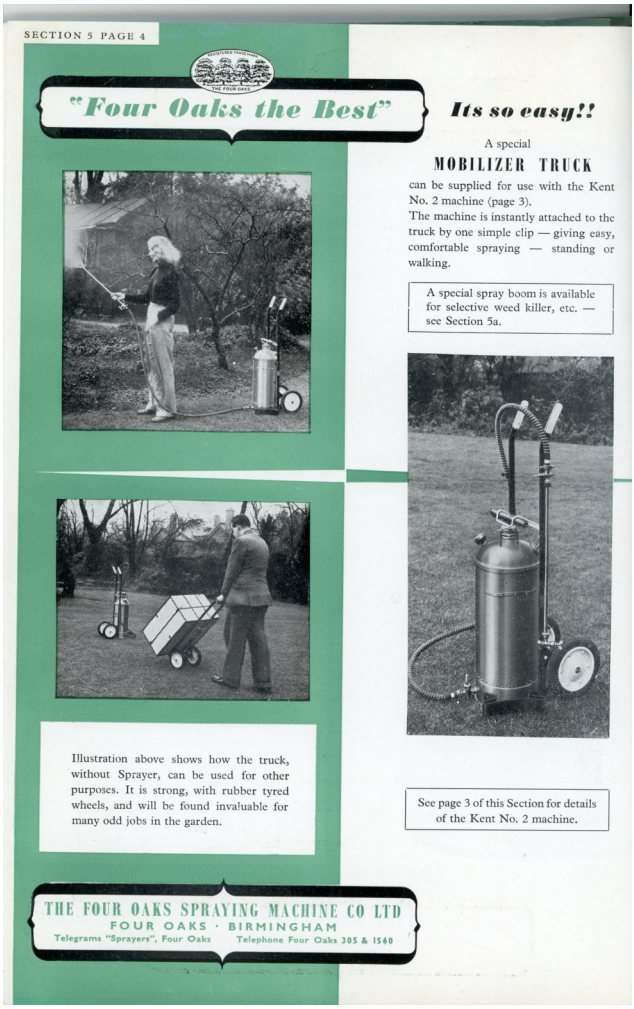
Four Oaks Spraying Machine Co

Appendix 45 (24) - *Catalogue post 1968 - Probably shorty before end of trading*



SECTION 5 PAGE 4

"Four Oaks the Best"

Its so easy!!

A special

MOBILIZER TRUCK

can be supplied for use with the Kent No. 2 machine (page 3).
The machine is instantly attached to the truck by one simple clip — giving easy, comfortable spraying — standing or walking.

A special spray boom is available for selective weed killer, etc. — see Section 5a.

Illustration above shows how the truck, without Sprayer, can be used for other purposes. It is strong, with rubber tyred wheels, and will be found invaluable for many odd jobs in the garden.

See page 3 of this Section for details of the Kent No. 2 machine.

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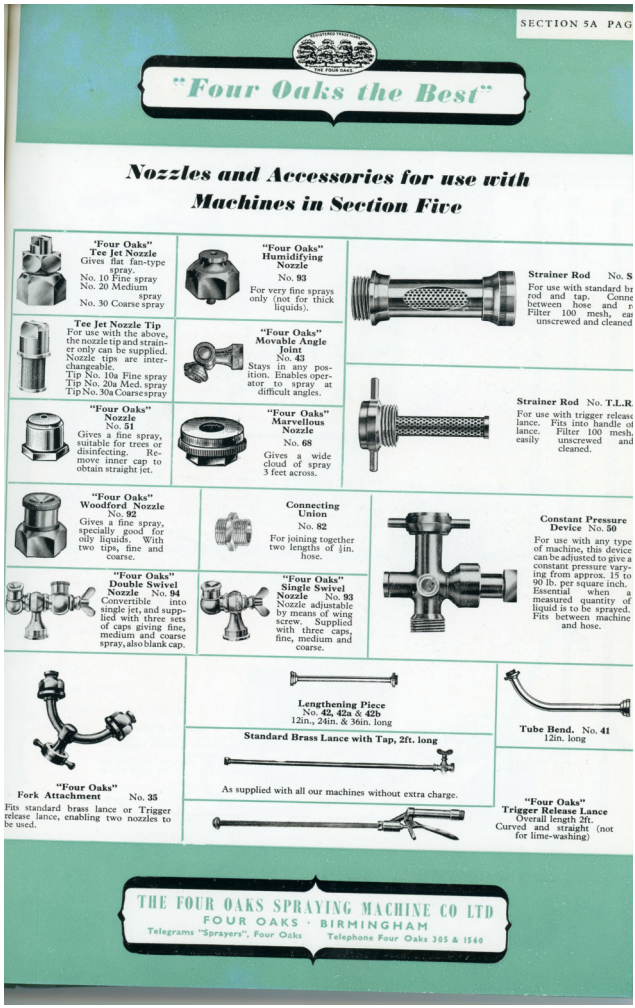
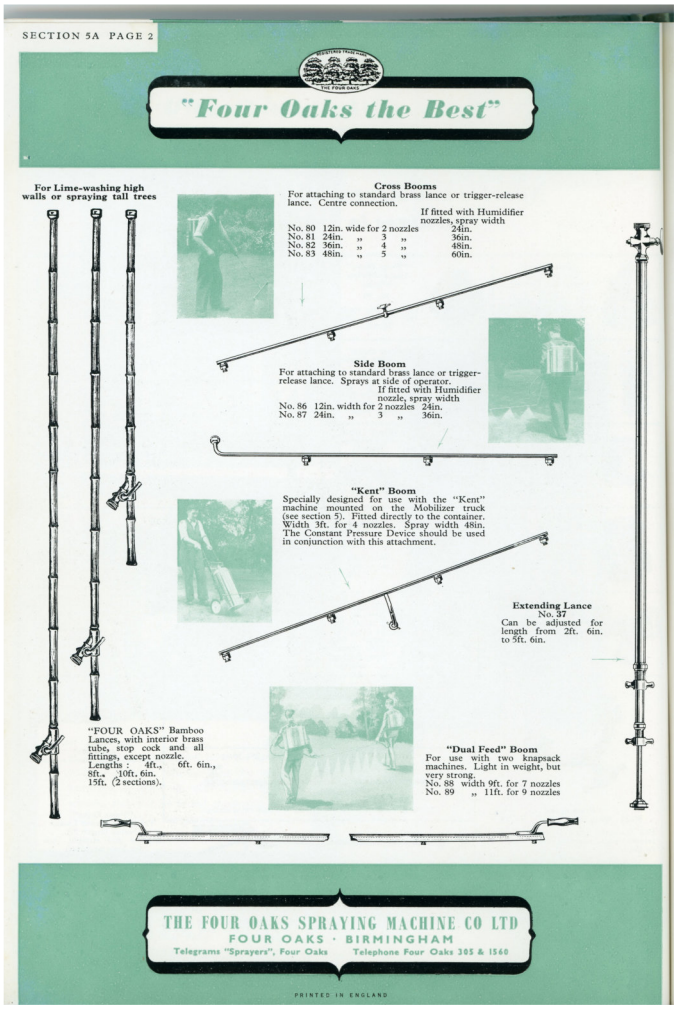
Appendix 45 (25) - *Catalogue post 1968 - Probably shorty before end of trading*



Four Oaks Spraying Machine Co

Appendix 45 (26) - *Catalogue post 1968 - Probably shorty before end of trading*

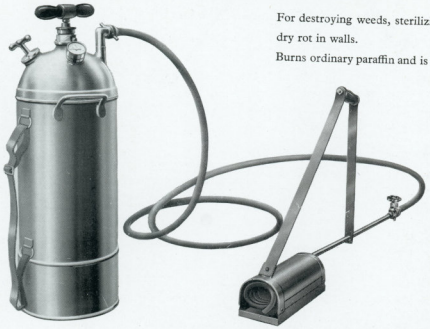


Four Oaks Spraying Machine Co

Appendix 45 (27) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

The Four Oaks FLAME GUN No. 1



For destroying weeds, sterilizing, etc., and for eradication of dry rot in walls.

Burns ordinary paraffin and is very economical in use. Simple and easy to use. Once alight, it burns with little attention, and one person can operate it. Gives a hot smokeless flame about 2/3 ft. in length about 2,000 °F.

Knapsack type, complete as illustration.

Capacity approx. 2 gallons paraffin, sufficient to last about two hours.

Spare parts outfit Box Z.1, available.

The Four Oaks FLAME GUN No. 2

Similar to above, but mounted on metal runners, so that it can be pulled behind operator.

Capacity as above.

Spare parts outfit Box Z.2, available.

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Four Oaks Spraying Machine Co

Appendix 45 (28) - *Catalogue post 1968 - Probably shorty before end of trading*

SECTION 6 PAGE 2

"Four Oaks the Best"

The Four Oaks BODKIN FLAME THROWER

This machine throws a jet of burning paraffin a distance of 10 - 15 ft.

The pressurized container holds sufficient liquid for approximately two hours use.

Specially useful for melting snow on roadways and metal stocks, etc., and has been used with great success abroad for the destruction of locusts.

Illustration on right shows machine in use against locusts.

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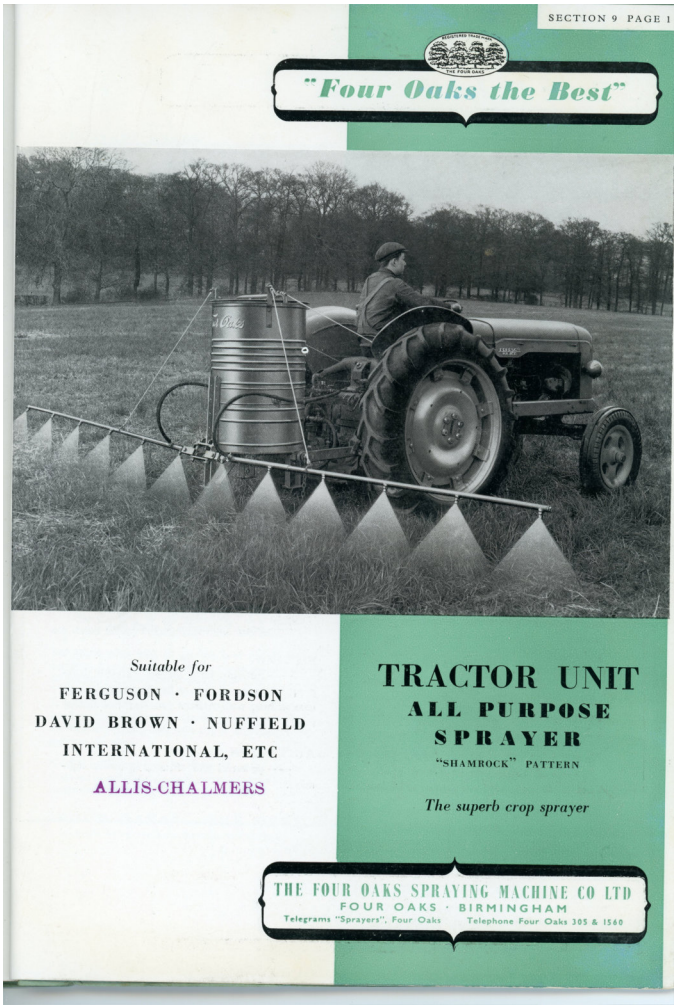
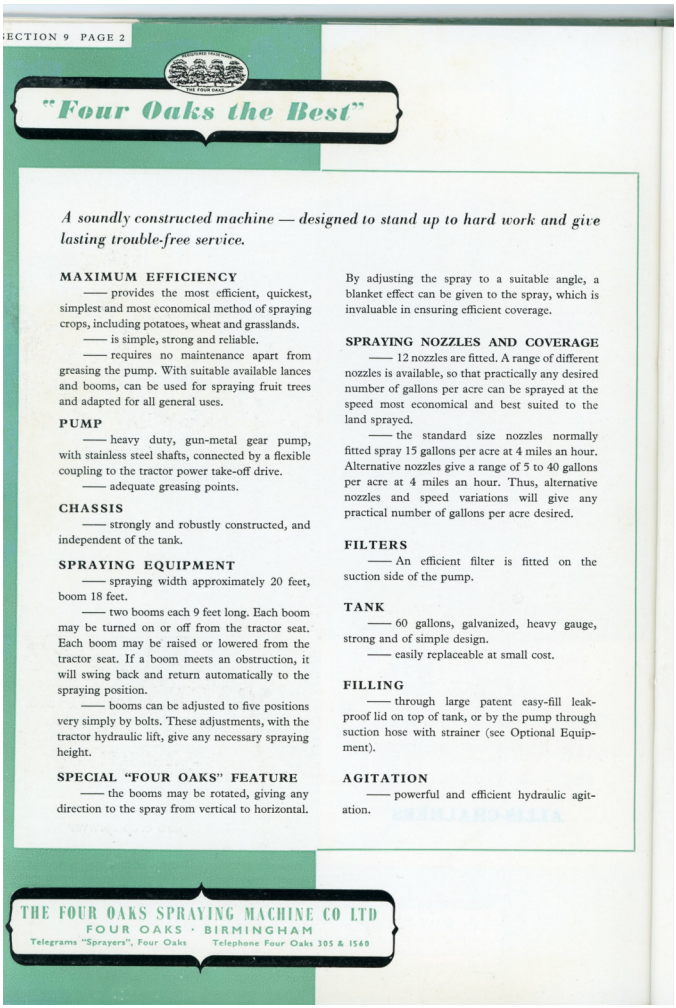
Four Oaks Spraying Machine Co

Appendix 45 (29) - *Catalogue post 1968 - Probably shorty before end of trading*



Four Oaks Spraying Machine Co

Appendix 45 (30) - *Catalogue post 1968 - Probably shorty before end of trading*



ECTION 9 PAGE 2

"Four Oaks the Best"

A soundly constructed machine — designed to stand up to hard work and give lasting trouble-free service.

MAXIMUM EFFICIENCY

—— provides the most efficient, quickest, simplest and most economical method of spraying crops, including potatoes, wheat and grasslands.

—— is simple, strong and reliable.

—— requires no maintenance apart from greasing the pump. With suitable available lances and booms, can be used for spraying fruit trees and adapted for all general uses.

PUMP

—— heavy duty, gun-metal gear pump, with stainless steel shafts, connected by a flexible coupling to the tractor power take-off drive.

—— adequate greasing points.

CHASSIS

—— strongly and robustly constructed, and independent of the tank.

SPRAYING EQUIPMENT

—— spraying width approximately 20 feet, boom 18 feet.

—— two booms each 9 feet long. Each boom may be turned on or off from the tractor seat. Each boom may be raised or lowered from the tractor seat. If a boom meets an obstruction, it will swing back and return automatically to the spraying position.

—— booms can be adjusted to five positions very simply by bolts. These adjustments, with the tractor hydraulic lift, give any necessary spraying height.

SPECIAL "FOUR OAKS" FEATURE

—— the booms may be rotated, giving any direction to the spray from vertical to horizontal. By adjusting the spray to a suitable angle, a blanket effect can be given to the spray, which is invaluable in ensuring efficient coverage.

SPRAYING NOZZLES AND COVERAGE

—— 12 nozzles are fitted. A range of different nozzles is available, so that practically any desired number of gallons per acre can be sprayed at the speed most economical and best suited to the land sprayed.

—— the standard size nozzles normally fitted spray 15 gallons per acre at 4 miles an hour. Alternative nozzles give a range of 5 to 40 gallons per acre at 4 miles an hour. Thus, alternative nozzles and speed variations will give any practical number of gallons per acre desired.

FILTERS

—— An efficient filter is fitted on the suction side of the pump.

TANK

—— 60 gallons, galvanized, heavy gauge, strong and of simple design.

—— easily replaceable at small cost.

FILLING

—— through large patent easy-fill leak-proof lid on top of tank, or by the pump through suction hose with strainer (see Optional Equipment).

AGITATION

—— powerful and efficient hydraulic agitation.

THE FOUR OAKS SPRAYING MACHINE CO LTD
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Four Oaks Spraying Machine Co

Appendix 45 (31) - *Catalogue post 1968 - Probably shorty before end of trading*

"Four Oaks the Best"

PRESSURE GAUGE
—— clearly marked, easily read, high quality. Easily seen from driving seat.

FIXING TO TRACTOR
—— extremely simple and quick. Fittings available for practically all standard makes of tractor.

OPTIONAL EQUIPMENT
—— the well-known "Four Oaks" "Farmfield" type dropped arms for under-leaf spraying, a proved favourite of fifty years' standing, can be supplied. Quotation on application.
—— hand lances and booms for special purposes can be supplied and used with this unit if desired.
—— hoses with filter for filling the tank by the pump.

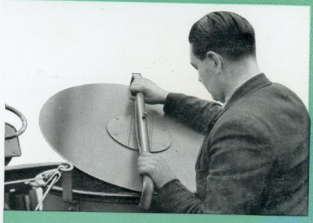
ESSENTIAL FEATURES
—— great efficiency in use, simplicity in operation, and strength and reliability. Note that the tank is of adequate size for the job; that there are few parts, all easily replaceable; that maintenance work is practically nil, merely greasing the pump; that the price is amazingly low for the best unit of this kind on the market, and that it provides the best, quickest, easiest and most economical method of crop spraying.

AN EXCLUSIVE "FOUR OAKS" FEATURE
Just look at the lid !
It covers the whole top of the tank.
It is leak-proof.
It can be instantly removed by one simple operation, and just as easily replaced.
This means easy filling and cleaning out.
To the best of our knowledge — a feature not found on any other tractor mounted unit.

For those who wish to get the best out of any Sprayer, it is essential that the container should be properly cleaned out from time to time.
The easier the operation, the better it will be done.
It is almost impossible to clean out properly a large container through a small opening, but with the FOUR OAKS unit, you can — if necessary— get into the tank !

NOTE. We reserve the right to make modifications in specification or to substitute alternativ components.

"FOUR OAKS" — THE BEST
PATENT PENDING AND DESIGN REGISTERED



"Showing the large lid — instantly removed by one simple movement. Easy cleaning — easy filling".

"The leak-proof lid clamped in position. Large strainer inside container".

THE FOUR OAKS SPRAYING MACHINE CO LTD
FOUR OAKS · BIRMINGHAM
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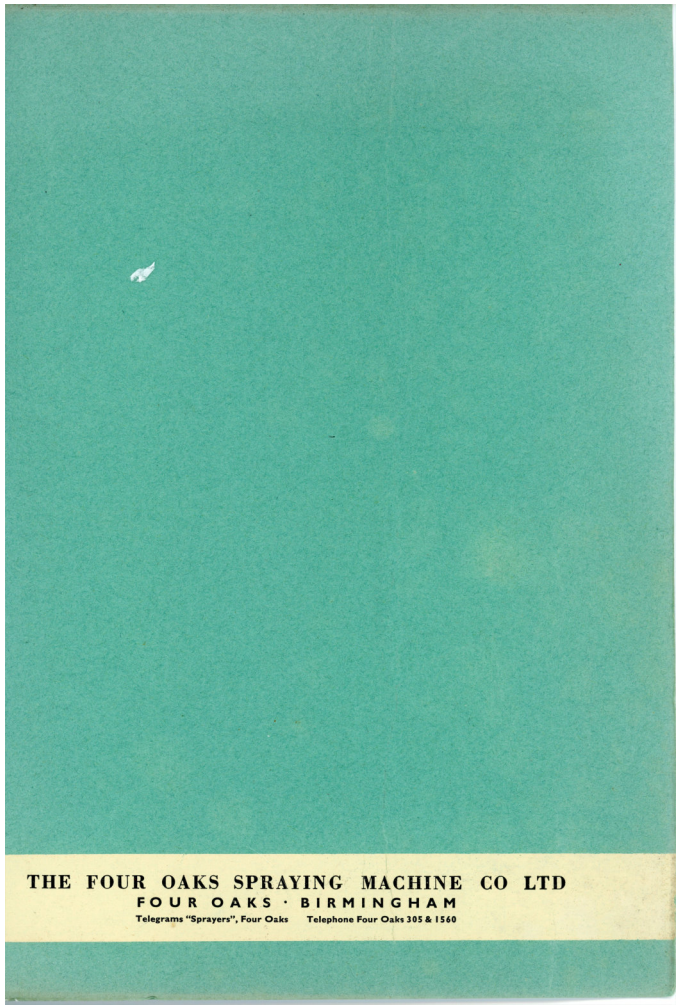
Four Oaks Spraying Machine Co

Appendix 45 (32) - *Catalogue post 1968 - Probably shorty before end of trading*

Four Oaks Spraying Machine Co

Appendix 45 (33) - *Catalogue post 1968 - Probably shorty before end of trading*



Chapter 20

W T French

W T French & Son

W T French & Sons

W T French & Son Ltd

Associated Sprayers Ltd

Hozelock Ltd

W T French

History (W T French; Warne, Wright and Rowland; ASL; Hozelock)

(For references see Appendix 1)

W T French

W T French was established in 1865 by William Thomas French (senior 1838 to 1904) in partnership with his brother Thomas (1840 to 1911).(*1957c*). The firm began with the manufacture of carpet sweepers but soon expanded into the production of garden engines. When American dumping made carpet sweepers unprofitable, the company shifted its focus to sprayers. In the early years most operations were carried out by hand, resulting in products of notably high quality. Syringe making commenced in 1870, and the 1881 census records William Thomas French as a garden syringe maker employing three men.

The original premises in Tindall Street were eventually outgrown, prompting the construction of larger works in St Mary Street. By 1883 the business was trading as W. T. French at 59 Tindal Street, Ladywood. Peck's Trade Directory of Birmingham for 1896–1897 lists the firm as 'French W & T' at 23 & 25 St Mary Street, manufacturing garden engines, branch pipes, hose unions, carpet sweepers, and operating as general cock founders.

By the time of the First World War, thousands of sprayers were being supplied to overseas customers. One of the largest markets was Czarist Russia, where the equipment was used for crop spraying and cholera control.

William Thomas French's elder son, William Thomas French junior, was born in 1865 and appears in the 1881 census as an office boy. In the 1901 census, W T French senior and both of his sons are listed as brassfounders, with the sons employed by their father. W T French junior died on 11 March 1902 at 25 St Mary Street from the perforation of a duodenal ulcer. His death certificate records him as a brass works manager. His father, W T French senior, died on 9 October 1904 from chronic Bright's disease after an illness lasting 18 months. The firm was then taken over by Alfred Edward French. Kelly's Directory for 1904 lists the business as W T French & Sons, while the 1905 edition records it as W T French & Son, both at 23 St Mary Street, Ladywood.

W T French

At some point, possibly in 1911, when he turned twenty−one Alfred William French (born 1890), the son of Alfred Edward French, became a partner in the business.

In 1914, with the outbreak of war, the firm was among the first forty companies to pass into Government control. Wartime production ranged from surgical instruments to depth charges, from food carriers to smoke bombs, as well as many specially designed sprayers for dispersing gas in the trenches.

The Ministry of Food was particularly concerned about potato diseases and worked with the company to produce the Mysto knapsack sprayer, which was trialled at RHS Wisley.

After the First World War, the company entered the aluminium trade, focusing primarily on cooking utensils.

In 1922, A E French retired and his son, A W French, took over the running of the business. This marked the beginning of a period of significant expansion, leading to a move in 1929 to new premises in Browning Street. Around this time, Ogilvy and Partridge were acquired, adding the manufacture of hearth furniture to the firm's activities. A year later, the electrical business of May & Padmore was purchased, bringing heating and cooking appliances into the company's product range.

In 1933, a disastrous fire destroyed half of the premises. This allowed the factory to be rebuilt on more modern lines, enabling further expansion and the employment of more people than ever before.

W T French & Son Ltd

An application was made on 16 August 1936 for the registration of the company W T French and Son Ltd, with the registered office at Mysto Works, Browning Street, Ladywood. The company was formed to take over the partnership of Alfred Edward French and Alfred William French, who had been trading as W T French & Son, as well as Ogilvy & Partridge Ltd (solid−fuel appliances) and the Mysto Aluminium Company (hollow−ware). It was established with 40,000 £1 shares, of which 15,000 were 6% Redeemable Cumulative Preference Shares and the remaining 25,000 were ordinary shares. Cumulative Preference Shares entitled their

holders to receive accumulated dividend payments even in years when the company did not make a profit

The transfer of the businesses to the new company was completed on 21 September 1936. The directors were: A E French of 52 Porchester Road, Bournemouth; A W French of Highmead, Warwick Road, Copt Heath; E A Barbour of 21 Sydenham Hill, SE26; and A S Burr of 21 Playfield Crescent, East Dulwich, SE22. Alfred William French served as Chairman and Managing Director of the new company. E A Barbour and A S Burr had invested in the business. The transfer resulted in A E French and A W French receiving a combined sum of £51,179 8s 4d. A E French died in 1953.

Documents from the period show that, prior to 1936, the French partnership had entered into several leases relating to their Browning Street premises. One lease, dated 30 March 1928, was between the Governors of the Schools of King Edward VI in Birmingham (the Lessors) and Alfred Edward French and Alfred William French (the Lessees). It covered a term of 75 years from 25 March 1928 at a rent of £150 per annum for the first ten years. The leased area comprised approximately 3,556 square yards of land bounded by St Vincent Street and Browning Street. Additional leases saw the partnership acquire a further 5,345 square yards of land from the Governors, along with offices in nearby buildings.
In August 1937 the company increased its nominal capital to £50,000. E A Barbour resigned and was replaced by a new director, R N Houston, who was appointed Assistant Managing Director and allocated the additional 10,000 shares. A further increase in nominal capital was made in April 1947, raising it to £75,000.

With the outbreak of the Second World War, the company once again played a major role in wartime production. It manufactured more than three−quarters of a million stirrup pumps, as well as gun−cotton cases, despatch boxes, primers, aircraft cowlings, jerricans, and anti−malarial and disinfectant sprayers.

After the war, A W French was joined in the business by his son John Brian Hall French, known as Brian (1927-2022), representing the fourth generation of the family to be involved in the firm. Brian French left W T French in 1954 to take control of R Harris (Brassfounders Ltd).

W T French

Warne, Wright and Rowland

At their AGM in June 1950 Warne, Wright and Rowland reported that they had acquired W T.French & Son and Carpenter & Allen Ltd who were now their subsidiaries (*1951a*). W T French & Son and Carpenter & Allen Ltd continued to trade as a separate business within the parent company. A W French remained a director *(1950b)*. I am uncertain when he left the business but probably by 1958. He died on 24th February 1982 aged 92 in Exmouth, Devon. T R Carpenter also became a director (*1951a)*.

Warne, Wright and Rowland dates from a screw making business started by James Warne in 1864. In 1895 the Warnes sold out to Cecil Wright and in 1896 J D Rowland joined the business giving the company its title. The company grew steadily as makers of nuts, bolts and bicycle parts. After the WW II the company embarked on a major acquisition programme. By 1951 it had nineteen companies under its wing including G & W Purser (acquired 1944), W T French (acquired 1950) and Carpenter & Allen (acquired 1951) *(1973a).* At the AGM in 1954 it was reported that Machine Units Ltd, a small plastics firm, had been installed at W T French & Son Ltd with the ultimate intention of making mouldings for that company's products. At that AGM the chairman also reported on the nature of the losses made by W T French & Son Ltd and G & W Purser Ltd (*1954b*).

In January 1958 W T French & Son Ltd, G & W Purser Ltd, Carpenter & Allen Ltd and Ladbrook Stampings Ltd were merged into one unit known as Browning Street Industries Ltd but still trading under their own name *(1958a).*

During 1961, the plant, goodwill and patents of the spraying part of the business of Apex Inflator Co Ltd were bought by Warne, Wright and Rowland Ltd *(1962a).* This traded under the name Apex Sprayer Ltd as part of Browning Street Industries Ltd and seems to have been run by W T French & Son Ltd. This acquisition adding plastic syringes to the brass syringe range.

Associated Sprayers

This was followed by a period of streamlining when Warne, Wright and Rowland sold some of its businesses. In 1963 Warne, Wright

and Rowland merged its W T French & Son Ltd garden sprayer business with that of Testar & Swain Ltd forming a new company Associated Sprayers Ltd. Apex Sprayers Ltd were included (1963b). Warne Wright and Rowland had minority voting rights but owned 65% of the equity in the new company. The managing director was Hilton Newton-Mason from Testar & Swain Ltd. Production and administration moved to new premises in Eliot Street, Birmingham, purchased from Linley Engineering Co. Warehouse accommodation, used for storage, dispatch and offices, was acquired in Plume Street, Aston, Birmingham. On 26th May 1965, the Eliot Street factory was completely destroyed by fire the cause of which was never established *(1966a)*. Within 17 days the company was back in production in temporary premises. A machine in the factory had produced the tinplated barrels for the sprayers from short length of preprinted metal and this proved difficult to replace. The Eliot Street works were rebuilt and officially opened in February 1966. Percy Thrower was a guest at the event (*1966b*).

Some W T French Ltd metal products were made by ASL but this does not seem to have continued beyond the mid 1960s.

In 1966 sales of the SLAYER continuous-action handheld sprayer were booming with it selling in over 40 countries with exports accounting for 35-40 percent of production. South Africa, USA and Scandinavia were particularly good markets for the company. They were making up to 25,000 SLAYERS a week. Their business in clothes drying aids was also thriving. The flagship product being the ASL TIDY DRY an indoor self-reeling clothesline (*1966a).*

In 1968 the company had topped the £1,000,000 turnover mark by August. Sales remained largely seasonal (*1968a).* Competition from abroad was becoming an issue and the use of plastics was growing, threatening the traditional tinplate products. ASL continued to do well until 1974 when results were disappointing. Then in the second half of the year to August 1975 it made a loss, alleviated only by tax credits and the sale of a factory.

On 11 May 1978 the name of Testar & Swain Ltd was changed to ASL Airflow Ltd *(1978a)* making a new operating subsidiary for Associated Sprayers Ltd. ASL sprayers were then retailed under this name. For a few years there was some recovery in profits then in 1982 there was further downturn.

W T French

Hozelock

Hozelock was founded in 1959 by Fletcher Sydney Codling (1919 - 1997) as part of the Ropner Engineering Group. They were based on an airfield in the village of Haddenham, Buckinghamshire. . David Codling son of the founder joined Hozelock in1979 and by 1981 he was running the company. In 1983 they acquired Associated Sprayers Ltd with the trading company ASL Airflow Ltd *(1994a)*. By this time sprayers were all made of plastic. Syringes were no longer widely used and the market was mainly pneumatic sprayers of various sizes

In the 1985 directors report for ASL Airflow Ltd it states that the company is no longer active with trading being transferred to the parent company Hozelock-Asl Ltd *(1985a)*. It is probably around this time that ASL products such as the KILLASPRAY and POLYSPRAY received Hoselock branding, although this does not appear to have happened immediately.

In 1989 Ropner Holdings were bought by a third party, and Hozelock now incorporating ASL, was subject to a management buyout led by David Codling. In 1993 Hozelock became a public limited company. In 1999, after a succession of wet summers and stock market turmoil halved the company's share price, there was another management buyout with Hozelock becoming a private company under David Codling. Associated Sprayers Ltd was dormant from about 1992 and wound up in 2020 but restored in 2023 by a court order following a claim against the company (2023a).

Hozelock occupied a number of premises in the Aylesbury area and still had a presence in 2024. The company had several other premises throughout the country. There was a factory in Plume Street, Aston Birmingham but this moved to a new factory at Midpoint Park, Minworth, Sutton Coldfield in 1995. The head office was moved there in 2005. In 2024 Hozelock was a private limited company registered in the UK but part of the Excel Group a French company. Hozelock's web site in 2024 states 'Over 75% of our products are made in Britain. With the remaining 25% built in our overseas factories in France, Malaysia, Taiwan, and China'.

W T French

Catalogues and Advertising

The earliest catalogue I have is No. 56 Limewash and Spraying Machines dating around the end of 1918. Then a 1938 catalogue inspected at The Museum of English Rural Life, Reading. (TR REE/P2/B1139). After that 101/48 (Trade Price List for 1948) and 101/49 (Retail Price List for 1949). There are newspaper advertisements back to 1914 and few other advertisements for the 1920s are known. We know from other manufacturers that sprayers dating back to 1881 could potentially survive and very often, once a model was introduced, it continued in production for many years, often with minimal changes. After 1948 there are several catalogues and many advertisements. Most of the surviving sprayers are post WW II and are shown in the catalogues. I have included as much information as I can on the sprayer models I know were produced. For non-sprayers I have included limited information on the items in my collection.

Patents

Alfred Edward French, Alfred William French and W T French & Son have a number of patents and these are listed below. Also included are patent granted to Henry Lucien Reason and Gerald Hickman because these were implemented by W T French & Son Ltd. The date is the acceptance date which is often a year or so after the applied for date. Products were often available by the acceptance date. Patents cover a variety of appliances and I have listed all I am aware of and not just those relating to sprayers. Details of the patents can be found on the Espacenet Patent Search web site.

GB190625921A *dated 16 November 1907 - Alfred Edward French - Conical fast-fill valve.*
GB191402858A *dated 3 December 1914 - Alfred William French - Improvements to cattle syringes.*
GB191504639A *dated 13 January 1916 - Alfred William French - Improvement to spray producer.*
GB201350A *dated 2 August 1923 - Alfred William French - Stuffing box for hose nozzle.*
GB211601A *dated 28 February 1924 - Alfred William French - Atomising Sprayer. Implemented as the No. 19 Atomising Sprayer.*
GB217300B *dated 12 June 1924 - Henry Lucien Reason - Sprayer which stops spraying when turned. Implemented in the Mysto AUTO SPRAY.*
GB217792A *dated 26 June 1924 - Alfred William French - Producing an atomising spray by combining air and liquid.*

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GB267417A *dated 17 March 1927 - Alfred William French - Retaining air pressure in self supplying sprayers. Implemented in the Mysto 39 GEM sprayer.*
GB349184A *dated 28 May 1931 - Alfred William French - Improvements to sprinklers.*
GB350074A *dated 11 June 1931 - Alfred William French Ltd - Pipe joint.*
GB350908A *dated 15 June 1931 - Alfred William French - Paint sprayer.*
GB374971A *dated 23 June 1932 - Alfred William French - Thermal breaker for electrical items.*
GB397943A *dated 7 September 1933 - Alfred William French - Hose or syringe nozzle selected by rotation of syringe.*
GB408773A *dated 19 April 1934 - Alfred William French - Change from rose to jet by rotation of nozzle.*
GB465911A *dated 19 May 1937 - Alfred William French - Improvements to saucepan lids.*
GB473428A *dated 13 October 1937 - Alfred William French - Improvements to electric irons.*
GB477558A *dated 3 January 1938 - Alfred William French - Improvements to electric immersion heaters.*
GB489921A *dated 18 March 1938 - W T French & Son Ltd - Electric Kettle improvements.*
GB515130A *dated 27 November 1938 - W T French & Son Ltd - Improvements to coffee percolators.*
GB538537A *dated 7 August 1941 - W T French & Son Ltd - Automatic cut out for electrical goods.*
GB542982A *dated 4 February 1942 - W T French & Son Ltd - Connection of hose to tap.*
GB543303A *dated 18 February 1942 - W T French & Son Ltd - Device which uses water from a tap to pump water from a container.*
GB570812A *dated 24 July 1945 - W T French &Sons Ltd - Hand sprayer design.*
GB608316A *dated 14 September 1948 - Gerald Hickman - Portable liquid spraying apparatus. Implemented as the COMET sprayer. Gerald Hickman was a New Zealander.*
GB615787A *dated 11 January 1949 - W T French & Son Ltd - Improvements to stop valve on sprayers.*
GB790935A *dated 19 February 1958 - W T French & Son Ltd - Inventor Frank Geoffrey Tunnell - Liquid container for spraying apparatus.*

Logo and Marks

The earliest mention I can find of the MYSTO brand name is 1914. The maker and brand can be on a metal plate, engraved on the barrel or in the form of a decal. They came into use in that order but possibly very early sprayers were just engraved W T French. Many sprayers have ‘Made in England’ stamped into the barrel which means that they are after 1930 when the USA made it a requirement for items or their container to be marked with country of origin. The Mysto Man logo appears to date to around 1950. It was first used on catalogues and later as a decal on sprayers.

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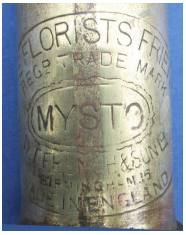


Left :- Hanging label used on some syringes. About 2 ¼ inches in diameter.

W T French

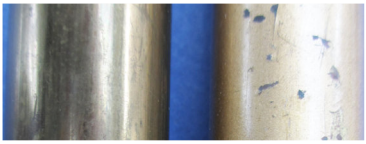
SYRINGES

Introduction

W T French and the later companies produced a range of about 25 syringe models. The 1927 Gamage's catalogue features syringe models 8 and 9 which continue in use until the 1950s. This suggests that the model numbering system was well established by this time. It seems to have remained fairly consistent for many years after this. The earliest mention I can find of 'Florist's Friend" range is in the 1914 RHS Journal. This range continued in production until just after WW II, and is mentioned in the 1948 catalogues but not specifically mentioned after that. Probably, many of the basic syringes featured in the 1938 catalogue were being produced early in the life of the company. Within a particular model there are usually some variations over time. These are explained for each model. Models 6 and 7 were very popular models and many survive, so the variations in this model have been covered in more detail.

The earliest of the decals (paint transfers) is the round 'MYSTO' decal, this was followed by the "Mysto Man" decal and finally by the blue and white ASL decal.

Finishes are described as brass, polished brass, polished and lacquered brass, and polychromatic gold. The latter not being mentioned until the 1950s. Some chromium plated products were also produced. The original finish may not always be ascertainable as they are subject to deterioration during use and also affected by over cleaning.



Left :- The lacquered finish and the polychromatic gold finish.

Left :- Polychromatic label

Right :- The Florist's Friend No. 2 was one of the earliest of the range.

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Syringes are listed in model number order, with those where I do not know a model number listed at the end.

MODEL 2 and Similar

Florist's Friend No. 2 are known to have been available in 1914. The last mention I am aware of is in the 1938 catalogue. They were fitted with the swivel spray nozzle and a drip preventing sleeve. Sizes known were 14 inches x 1 inch, 16 inches x 1¼ and 20 inches x 1¼ inches. Only the 20 inch model is listed in the 1938 catalogue. R Harris made a syringe with a similar nozzle.

Above :- [824] {2} Barrel length 14 inches and diameter 1 inch. Florist Friend 2 plate. Purser type drip preventer which is 6 inches long. Fitted with a swivel spray nozzle with a separate fast-fill value controlled by a ball held in by crimping. Two spare nozzle caps It has a hollow brass piston rod ½ inch in diameter. The piston is of the cotton reel type ½ long. Rose nozzle with central fast-fill valve controlled by a ball. Missing a holder and probably a jet nozzle with a side fast-fill valve. There is a collar on each end of the barrel.

Above :- [214] {2} Florist's Friend No. 2. Barrel length 14 inches and diameter 1 inch. Purser type drip preventer which is 6 inches long. Fitted with a swivel type nozzle of the W T French type. Partially incomplete. This has a separate fast-fill value controlled by a ball held in a cage. Three spare nozzle caps (fine, medium and coarse). It has a hollow brass piston rod $^{7}/_{16}$ inch in diameter. The piston is of the cotton reel type ½ inch in length. Supplied with a rose nozzle with a central fast-fill valve controlled by a ball in a crimped cage. Supplied with a jet nozzle with of similar design. There is a collar on each end of the barrel.

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Above :- [792] {4} Barrel length 16 inches and diameter 1¼ inches. Purser type drip preventer which is 8 inches long. Most likely it was once fitted with a swivel type spray nozzle of the W T French type which is now missing. One spare nozzle cap (one missing). It has a hollow brass piston rod. The piston is of the cotton reel type. Rose with central fast-fill valve controlled by a ball in a crimped cage. Jet with a similar fast-fill valve. Although incomplete, it is included here as a rare example of a Florist's Friend 2 with a 1¼ inches diameter barrel.

Above :- [793] {4} Barrel length 14 inches and diameter 1 inch. Purser type drip preventer which is 6 inches long. Fitted with a swivel type spray nozzle but not of the same type as the other No. 2 syringes which makes it unusual. This has a separate fast-fill valve controlled by a caged ball. Holder for two spare nozzle caps (both missing). It has a hollow brass piston rod $^{7}/_{16}$ inch in diameter. The piston is of the cotton reel type ½ inch in length. Rose with central fast-fill valve controlled by a ball in a crimped cage. Jet with a fast-fill valve of similarly construction. Has some damage on the barrel which has been soldered.

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Above :- Plate reads WITH MOVEABLE SWIVEL SPRAYER WHICH CAN BE TURNED IN ANY DIRECTION DESIRED. THE "FLORISTS FRIEND" No 2 COMBINED GARDEN AND "SPRAYING SYRINGE"

Above :- [933] {4} Barrel length 20 inches and diameter 1¼ inches. Purser type drip preventer which is 9 inches long. Fitted with a swivel type spray nozzle. This has a separate fast-fill valve controlled by a caged ball. Three nozzle caps (Coarse, Medium and Fine) with holder on barrel for two caps. It has a hollow brass piston rod $^{7}/_{16}$ inch in diameter. The piston is of the cotton reel type ½ inch in length. Rose with central fast-fill valve controlled by a ball in a crimped cage. Jet with a fast-fill valve of similarly construction.

MODEL 4 - Florists' Friend.

Known only from the 1938 catalogue. Barrel length 16 inches with a diameter of ⅞ inch. Bend. Rose with ball valve. Spray with separate fast-fill valve. Polished and lacquered. Very similar, but with a smaller diameter barrel to the 20 x 1 inch Florists Friend 5A (see [795]).

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MODEL 5 - Not in the 1938 catalogue. The number may have been used for an earlier sprayer and reused post war for a different sprayer. In 1948 and 1949 catalogues the model 5 is described as a polished and lacquered brass syringe with barrel length of 14 or 20 inches. In these catalogues the 14 inch model was available only with a diameter of 1 inch and the 20 inch version was available in both a 1 inch and 1¼ inch diameter version. In the 1956 and 1957 catalogues only the 20 x 1 inch is listed and this is with the polychromatic gold finish. The shape of the spray nozzle also changes between 1949 and 1956. Fitted with a removable bend and nozzle. There is a collar on each end of the barrel. Spray and rose nozzles provided with a holder on the barrel for the nozzle not in use.

Above :- The two spray nozzles known to have been used on the model 5. Both work in a similar way with a fast-fill valve controlled by a ball. They have exchangeable caps. The nozzle does not have a spray plug. The outlets for the spray are built into the spray head as two holes at an angle (right picture).

Above :- [448] {2} Mysto engraved on nozzle. 'MADE IN ENGLAND' on barrel. Barrel length 20 inches and diameter 1 inch. Spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Rose nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with a cotton reel type piston. Removable bend. [892] in the collection is identical.

Above :- [614] {2} Remains of oval decal. Barrel length 14 inches and diameter 1 inch. Spray nozzle with separate fast-fill valve. Controlled by a ball held in by a bar. Rose nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with a cotton reel type piston. Removable bend.

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Above :- [275] {2} Mysto on spray nozzle. Barrel length 20 inches and diameter 1 inch. Spray nozzle with separate fast-fill valve. Controlled by a ball held in by a bar. Rose nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with a cotton reel type piston.

Above :- [002] {2} Remains of Mysto Man logo. Barrel length 20 inches and diameter 1 inch. Spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Rose nozzle. Solid brass piston rod $^{5}/_{16}$ inch in diameter with spring. Piston is leather back-to-back cup washers. Unmarked bend.

Above :- [574] {2} Mysto Man logo . Barrel length 20 inches and diameter 1 inch. Spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Rose nozzle. Solid brass piston rod $^{5}/_{16}$ inch in diameter with spring. Piston is leather back-to-back cup washers. Signs of polychromatic gold finish. Unmarked bend.

Above :- [131] {2} Mysto Man decal with model number. Barrel length 20 inches and diameter 1 inch. Spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Rose nozzle. Solid brass piston rod $^{5}/_{16}$ inch in diameter with a leather cup washer piston. Removable bend.

Above :- [347] {2} Mysto on spray nozzle. Barrel length 20 inches and diameter 1 inch. Spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Rose nozzle. Solid brass piston rod $^{5}/_{16}$ inch in diameter with a leather cup washer piston. Removable bend.

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MODEL 5A - Florists' Friend

In the 1938 catalogue. Available in four sizes. 1 inch by 14 inches, 1 inch by 20 inches, 1¼ inches by 16 inches and 1¼ inches by 20 inches. Described as being complete with bend, rose and sprayer, both fitted with a ball valve. Polished and lacquered. Fitted with stuffing box.

Above :- [221] {2} Mysto plate showing Florist's Friend 5A. Barrel length 16 inches and diameter 1¼ inches. Spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Rose nozzle with central fast-fill valve (left). Hollow brass piston rod $^{7}/_{16}$ inch in diameter with a cotton reel piston ½ inch in length. Removable bend embossed MYSTO. Both ends of the barrel have a collar.

Above :- [795] {2} Mysto plate showing Florist's Friend 5A. Barrel length 20 inches and diameter 1 inch. Spray nozzle with separate fast-fill valve of the type which does not have exchangeable caps. Controlled by a ball held in by a bar. Rose nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with a cotton reel piston. Removable bend. Both ends of the barrel have a collar.

MODEL 6 - Florists' Friend

Model 6 appears in the 1938 catalogue in five sizes,16 inches by ⅞ inch, 14 inches by 1 inch, 20 inches by 1 inch, 16 inches by 1¼ inches and 20 inches by 1¼ inches. In the 1938 catalogue they are described as being polished and lacquered. The spray head is

of the type shown to the left. Only the 1 inch sizes appear in the 1948 catalogue where it is described as being 'Heavy Pattern' and is shown fitted with a conical spray nozzle, a rose nozzle and a bend. Also, in the 1948 catalogue, model 6 is described as having

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a cotton packed piston (cotton reel piston). Model 6 is not shown in the 1949 or later catalogues.

Above :- [251] {3} Mysto Florist's Friend 6. Barrel length 14 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Spray head of the flat type with no caps. Separate fast-fill valve controlled by a ball. Rose with fast-fill valve. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar.

Above :- [31] {2} Mysto Florist's Friend 6. Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 8 inches long. Spray head of the flat type. Separate fast-fill valve controlled by a ball. Rose with fast-fill valve. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar.

Above :- [171] {2} Mysto Florist's Friend 6 plate. Barrel length 14 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Mysto spray head with a separate fast-fill valve controlled by a ball held in by a pin. Rose and jet nozzles. Hollow piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. Two spare nozzle caps making three - fine, medium and coarse. Sprayer [283] - see below - is similar

W T French

MODEL 7 - Florists' Friend

Model 7 appears in the 1938 catalogue in the Florists' Friend range. Four sizes were available. 14 inches by 1 inch, 20 inches by 1 inch, 16 inches by 1¼ inches and 16 inches by 1¼ inches. The model is described as being polished and lacquered. The spray head is of the conical type. In the 1948 catalogue the 14 inches by 1 inch version is not listed. Over time there were changes in the shape of the spray head, the spray caps provided and in the design of the rose and jet nozzles. The Florists' Friend range is not mentioned in catalogues after 1948, but the range may have continued after this as sprayers [806] an [001] appears to be later than 1948, but are engraved as Florists' Friend. .

Above :- [170] {3} Mysto Florist's Friend 7 with plate. Barrel length 14 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Mysto spray head with a separate fast-fill valve. Missing parts, but most likely controlled by a ball held in by a bar. Rose and jet nozzle with fast-fill valves. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar.

Above :- [488] {2} Mysto Florist's Friend 7 with plate. Barrel length 14 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Mysto spray head with a separate fast-fill valve controlled by a ball held in by a bar. Rose and jet nozzle with fast-fill valves. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. Two caps,

W T French

Above :- [808] {4} Florist's Friend No. 7. Barrel length 14 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Spray head with a separate fast-fill valve controlled by a ball held in by a pin. Rose nozzle and jet nozzle both with fast-fill valves. Hollow piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. Two nozzle caps. Chromium plated (including piston rod). The piston, rose nozzles, jet nozzle and the plate considered together suggest that this sprayer is fairly early (1940s).

Above :- [008] {2} Florist's Friend No. 7 with plate. Barrel length 14 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Spray head (may be a later substitute). It has a separate fast-fill valve controlled by a ball held in by a pin. Jet nozzle with fast-fill valve. Hollow piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. Possibly early 1940s.

Above :- [806] {2} Mysto 7 Florist's Friend engraved on drip preventer, Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 9 inches long. Mysto spray head with a separate fast-fill valve controlled by a ball held in by a bar. Rose and jet nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. Three spray caps.

Above :- [001] {2} Mysto 7 Florist's Friend engraved on drip preventer, Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 9 inches long. Spray head with a separate fast-fill valve controlled by a ball held in by a bar. Rose and jet nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. Three spray caps. The rose and jet nozzles appear to date this to after 1948.

W T French

Above :- [584] {4} Florist's Friend No. 7. Barrel length 14 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Florist's Friend/MYSTO with number on oval plate. Mysto triangular spray nozzle with a fast-fill valve. Three nozzle caps, with two holders on barrel for caps not in use. Rose and jet nozzles. Neither have fast-fill valves. Holder on barrel for nozzles not in use. Stuffing box. Both ends of the barrel have a collar.

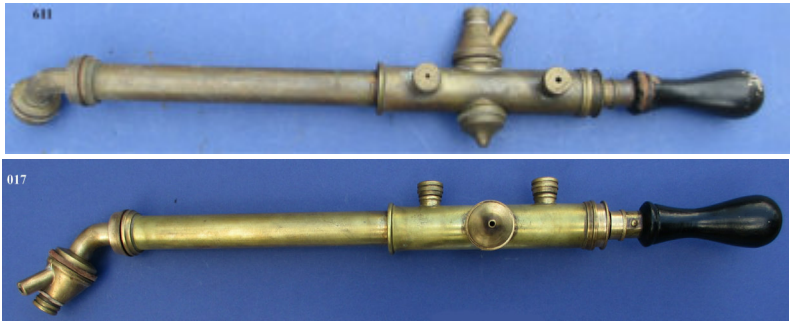
Above :- [355] {2} FLORST'S FRIEND and Mysto 7 engraved on drip preventer. Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Mysto spray head with a separate fast-fill valve controlled by a ball held in by a bar. Rose and jet nozzle. Three nozzle caps. Solid brass piston rod $^{5}/_{16}$ inch in diameter with piston of leather back-to-back cup washers. Both ends of the barrel have a collar.

Above :- [32] {2} FLORST'S FRIEND and Mysto 7 engraved on drip prevents. Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Spray head of the rounded type with a separate fast-fill valve. Rose and jet nozzle. Solid brass piston rod $^{5}/_{16}$ inch in diameter with piston of leather back-to-back cup washers. Both ends of the barrel have a collar. The spray nozzle with this sprayer may be a later replacement. The cap is smaller than the spare ones on the drip preventer. Signs that it once had a polychromatic finish.

W T French

MODEL 7 and Similar (Not Florists' Friend Range)

The last catalogue I know of which features the Florists' Friend range is 1948. The 1949 catalogue still lists Model 7, but only as 'Heavy Pattern'. However, the Florists' Friend range appears to have continued in some form after this.



Above :- [611] {3} Mysto on bend and nozzle, Barrel length 14 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Spray head with a separate fast-fill valve controlled by a ball held in by a bar. Rose and jet nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. Three spray caps. Holders on barrel. Sprayer [17] is similar but has been over cleaned and all detail lost.

Above :- [541] {2} Mysto on bend and spray nozzle. Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 9 inches long. Spray head with a separate fast-fill valve controlled by a ball held in by a bar. Rose nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar.

Above :- [468] {2} Mysto on bend and nozzle. Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 9 inches long. Mysto spray head with a separate fast-fill valve controlled by a ball held in by a bar. Rose and jet nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. Original finish removed.

W T French

Above :- [314] {2} Mysto decal. Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 9 inches long. Spray head with a separate fast-fill valve controlled by a ball held in by a bar. Rose and jet nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. One spare cap. Polychromatic finish.

Above :- [240] {2} Plate with just 'MYSTO'. Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 8 inches long. Spray head of the type without a cap. It has a separate fast-fill valve controlled by a ball held in by a triangular screw. Rose and jet nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with cotton reel type piston ½ inch in length. Both ends of the barrel have a collar. May have been lacquered.

Above :- [306] {2} Mysto man decal model 7. Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Spray head embossed MYSTO. It has a separate fast-fill valve controlled by a ball held in by a bar. Rose and jet nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with back-to-back cup washers. Both ends of the barrel have a collar. Two spare caps. Polychromatic finish.

Above :- [212] {2} Mysto Man decal with number. Barrel length 20 inches and diameter 1 inch. Purser type drip preventer 6 inches long. Spray head with a separate fast-fill valve controlled by a ball held in by a bar. Rose and jet nozzle. Solid brass piston rod $^{5}/_{16}$ inch in diameter with piston of leather back-to-back cup washers. Both ends of the barrel have a collar. Three caps (one missing).

W T French

MODEL 6 and 7 Summary

Models 6 and 7 are essentially the same with a different set of additional nozzles and caps. Within the two models there is considerable variation in the detail of the features.

- *Different types of spray nozzles - six different types.*
- *Rose nozzles if present are of two different types.*
- *Jet nozzles if present of two different types.*
- *Logo and marking differ. Brass plate of three different types, engraved detail or decal. Decals either round 'MYSTO' decals or Mysto Man decals. Some sprayers are specifically identified as part of the Florist's Friend range.*
- *Length of dip preventer varies.*
- *Arrangement and number of spare nozzle holders vary.*
- *Piston either cotton reel (early) or back-to-back leather cup washers.*
- *Finish varies. Either plain brass, lacquered brass, polychromatic gold finish or chrome finish.*

I believe that the oldest sprayers are those with rose and/or jet nozzles which have fast-fill valves. All these have cotton reel pistons. I think they are 1930s in date or perhaps just post WW II, but earlier example may exist. Florists' Friend models are also pre or just post WW II. The polychromatic gold finish appears around the mid 1950s. This finish is associated with sprayers with back-to-back leather cup washers. Many of the differences probably are not significant in dating the sprayers and are down to the availability of materials or marketing considerations.

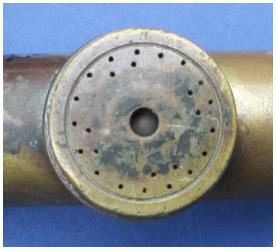
Left :- Type A was used on the early (pre 1948) model 6 sprayers and comes in two forms (see G).

Above :- ***Nozzles with exchangeable caps****. I believe nozzle B and D to be the earliest. B is not embossed MYSTO but D is embossed on one side. The embossing can be very faint as in this picture. Its absence may just be down to the final finishing at time of manufacturer. Both B and D have ¾ inch diameter cap and can have a gold finish. Type C are not embossed MYSTO and have a ¾ inch cap. They seem to have been in use about the same time as B and D. Type E is later and clearly embossed MYSTO on one side and can have either a ¾ inch, or the ⅝ inch cap. Both E and F usually have a gold finish. Type F appears to be in use about the same time as E and has a have a gold finish and the ⅝ inch cap.*

W T French

Right :- The spray nozzle from the chromium plated model number 7. While this looks similar to the rounded gold nozzle (below) it is different.

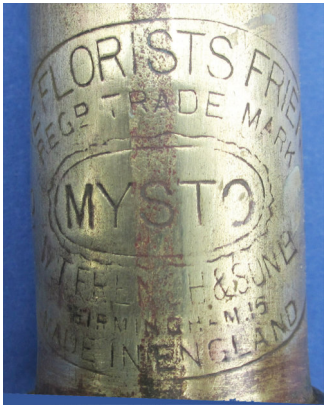
Left :- The interior of the two rounded conical spray heads. Both fast-fill valves are controlled by a ball but this is held in differently in the two examples. The older version is on the left.



Above :- Rose and jet nozzles. Nozzles on the left is a rose nozzle with a central fast-fill valve. Centre is a rose nozzle with no fast-fill valve. Right is a jet nozzle with a central fast-fill valve. All model 6 and 7 sprayers had spray nozzles but not all had rose or jet nozzles. Some had neither and some had just a rose nozzle.

Left :- The chrome version of the jet nozzle with a fast-fill valve.

W T French



Above and right :- Examples of the plates and logos used on models 6 and 7. The logos on the brass plates top left are probably the oldest used. The embossed logo may have been used post WW II when materials were in short supply. The round MYSTO decal appears to be after this and the Mysto Man decal is in use on the later syringes. The spray nozzles were usually embossed 'MYSTO' and some of the bends were also similarly embossed.

W T French

The following table summarises the main features of the 6/7 type sprayers but there will undoubtedly be other combinations. There is every possibility that the combination of barrel and nozzles, or spray nozzles and caps may not be those originally supplied. Model number is suffixed FF if known to be in the Florist's Friend range. Spray type (see illustrations above). Caps is the totally number of caps for spray nozzle. Rose indicates if a rose nozzle is present and if it has a fast-fill valve (FFV). Jet gives the same information for the jet nozzle. Logo indicates the main way in which 'Mysto' is identified. Finish shows if the sprayer has (or once had) a lacquered, polychromatic or chrome finish. Piston is either CR (Cotton reel) or BBCW (Cup washers).

My Ref	Model	Spray Type	Caps	Rose	Jet	Logo	Finish	Piston
251	FF6	A		FFV	No	Oval Plate	Brass	CR
31	FF6	A		FFV	No	Oval Plate	Brass	CR
170	FF7	D	2	FFV	FFV	Oval Plate	Brass	CR
488	FF7	D	2	Yes	FFV	Oval Plate	Brass	CR
808	FF7	*C*	*2*	*FFV*	*FFV*	Oval Plate	Chrome	CR
008	FF7	*C*	*1*	*No*	*FFV*	Oval Plate	Brass	CR
584	FF7	D	3	*Yes*	*Yes*	Oval Plate	Lacquered	CR
283	FF6	D	1	Yes	*No*	Round Plate	Brass	CR
171	FF6	D	1	Yes	No	Round Plate	Brass	CR
541		B	1	Yes	No	No Mark	Brass	CR
017		B	3	Yes	Yes	No Mark	?	CR
611		D	3	Yes	Yes	No Mark	Lacquered	CR
468		D	3	Yes	Missing	No Mark	?	CR
314		B		Yes	Yes	Round Decal	Lacquered	CR
1	FF7	B	3	Yes	Yes	Engraved	Lacquered	CR
806	FF7	D	3	*Yes*	*Yes*	Engraved	*Lacquered*	CR
240		A	-	Yes	Yes	*MYSTO plate*	*?*	*CR*
355	FF7	*F*	*3*	*Yes*	*Yes*	Engraved	Gold	BBCW
32	FF7	*F?*	*3*	*Yes*	*Yes*	Engraved	Gold	BBCW
212		*F*	*3*	*Yes*	*Yes*	MM Decal	Gold	BBCW
306		*E*	*3*	*Yes*	*Yes*	MM Decal	Gold	BBCW

Light blue - Late 1930s to early 1940s. Orange - Probably post 1948.
Brown - Mid 1940s to late 1950s. Mauve - Mid 1950s to 1970s.
? Nozzle or caps may not be contemporary with barrel.

W T French

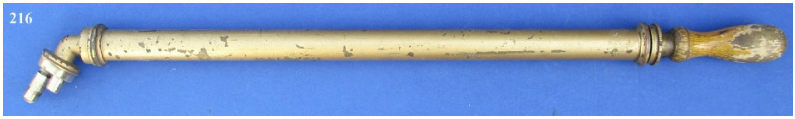
MODEL 8

In the 1927 Gamage's Catalogue as the Junior Spraying Syringe in the Florist's Friend range, with no drip preventing collar. In the W T French catalogues this model is mentioned in 1938 where it is has detachable spray nozzle with an integrated fast fill valve. It does not have a drip preventing collar. It then appears in the 1949 and 1951 catalogues in a similar from but with a drip preventing collar. The model number is then used in the 1958 catalogue for a syringe with a separate fast-fill valve and an adjustable nozzle. It continues to be available in this form after the change of name to Associated Sprayers Ltd in 1963.

Above :- Drawing from the 1951 catalogue showing model No. 8 syringe. Length 12 inches and diameter ⅞ inch. From the illustration it looks like the nozzle has an integrated fast fill valve. Advertised as having back-to-back cup washers and a drip ring. It seems to replace the model 8/9 of the 1948 catalogue.

Above :- [211] {2} Model 8 1958 version. Remains of a Mysto Man decal with model number. Barrel length 18 inches with a diameter of 1 inch. Polychromatic gold finish. Solid steel piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washer piston. Both ends of the barrel have a collar.

Left :- Removable bend. Adjustable spray nozzle using a rubber 'O' ring. It has a separate fast-fill valve which is controlled by a ball held in with a spring clip.



Above :- [216] {2} Remains of a Mysto Man decal with model number. Barrel length 18 inches with a diameter of 1 inch. Polychromatic gold finish. Removable bend. Adjustable spray nozzle with a separate fast-fill valve which is controlled by a ball held in with a spring clip. Solid steel piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washer piston. Both ends of the barrel have a collar.

W T French

Above :- [216] {2} Remains of a Mysto Man decal with model number. Barrel length 18 inches with a diameter of 1 inch. Polychromatic gold finish. Removable bend. Adjustable spray nozzle with a separate fast-fill valve which is controlled by a ball held in with a spring clip. Solid steel piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washer piston. Both ends of the barrel have a collar.

Above :- [313] {2} Remains of a ASL decal with Barrel length 18 inches with a diameter of 1 inch. Polychromatic gold finish. Removable bend. Adjustable spray nozzle with a separate fast-fill valve which is controlled by a ball held in with a screw-in component with a square opening. Solid steel piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washer piston. Both ends of the barrel have a collar. Rare example of an ASL decal on a brass sprayer. Dates from about 1963.

Left :- The underside of the spray nozzle. Showing the fast-fill valve bottom right.

Right :- The W T French adjustable nozzle. Turning the cap changes the size of the atomising chamber. This changes the size of the droplets. The seal between the cap and the nozzle is maintained by a rubber 'O' ring. Rubber 'O' rings only start being used after WW II. Prior to this, adjustable nozzles used a stuffing box with leather washers or string to form the seal. The stuffing box type does not seem to have been a great success. Rubber 'O' rings are used in modern adjustable nozzle.

W T French

MODEL 8/9 Barrel length 12 or 16 inches with a diameter of ⅞ inch. Only the 12 inch version is mentioned in the 1938 and is in the Florists' Friend range. In 1938 it does not have a drip preventer, but in the 1948 catalogue this is present. In both catalogues it is said to have a detachable nozzle. However, I have not seen an actual example where this is the case. The model is not mentioned in later catalogues.

Above :- [492] {2} This sprayer appears to be the 8/9 model without the drip preventer as in the 1938 catalogue. The spray head is not removable and there is no collar on the handle end of the barrel. MYSTO on plate. Barrel length 12 inches and diameter ⅞ inch. Solid brass piston rod ¼ inch in diameter with leather back-to-back cup washer piston.

Above :- [797] {2} This sprayer appears to be the 8/9 model without the drip preventer as in the 1938 catalogue. The spray head is not removable and there is no collar on the handle end of the barrel. The plate reads "W T FRENCH LTD MYSTO WORKS BIRMINGHAM". The barrel end cap screws onto an external thread on the barrel. Barrel length 12 inches and diameter ⅞ inch. Hollow brass piston rod $^{5}/_{16}$ inch in diameter with leather back-to-back cup washer piston.

MODEL 9

Barrel length 16 or 18 inches with a diameter of ⅞ inch. Fixed spray head with a separate fast-fill valve. Gamage's 1927 catalogue in the Florist's Friend range. In the W T French catalogue 1938 only the 18 inch version is listed in the Florists' Friend range with a polished and lacquered finish. In the 1948 and 1949 catalogues only the 16 inch version is listed with the polished brass finish. In the 1958 catalogue the model is listed as having a polychromatic finish but again only in the 16 inch size. There is some variation within this model. The spray heads differ in shape, the valves are of different design, the manufacturers marks vary, the drip ring may or may not be present, and the finish can vary.

W T French

Left :- The two types of spray head on the No. 9 syringe.

Above :- [312] {2} Specifically identified on the plate as a Florist's Friend 9. Barrel length 18 inches and diameter ⅞ inch. Hollow brass piston rod $^{3}/_{8}$ inch in diameter. Fixed spray nozzle with separate fast-fill valve controlled by a ball held in place with screw-in component with a bar. Lacks the drip preventer.

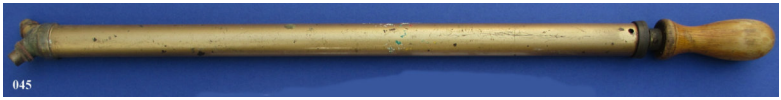
Above :- [5] {2} Identified on the plate as a Florist's Friend 9. Barrel length 18 inches and diameter ⅞ inch. Hollow brass piston rod ⅜ inch in diameter. Fixed spray nozzle with separate fast-fill valve controlled by a ball held in place with a screw-in component (right).

Above :- [113] {2} Specifically identified on the plate as a Florist's Friend 9. Barrel length 18 inches and diameter ⅞ inch. Fixed spray nozzle with separate fast-fill valve controlled by a ball held in place with a screw-in component (as for [5] above). Solid brass piston rod ⅜ inch in diameter with leather back-to-back cup washer piston. Drip ring. 1945 to early 1950's. Handle end of barrel without collar.

Above :- [071] {2} Remains of round MYSTO decal. Barrel length 16 inches and diameter ⅞ inch. Fixed spray nozzle with separate fast-fill valve controlled by a ball held in place with a screw-in fitting controlled by a bar (see left). Solid brass piston rod $^{5}/_{16}$ inch in diameter with leather back-to-back cup washer piston. Drip ring. The barrel end cap screws onto an external thread on the barrel.

W T French

Above :- [311] {2} W T French and Mysto engraved on the barrel. Barrel length 16 inches and diameter ⅞ inch. Fixed spray nozzle with separate fast-fill valve controlled by a ball held in place with a crimp (see right). Solid brass piston rod $^{5}/_{16}$ inch in diameter with leather back-to-back cup washer piston. No drip ring. Lacquered finish.



Above :- [45,48,80] {1} Barrel length 16 inches and diameter ⅞ inch. Fixed spray nozzle with a separate fast-fill valve controlled by a ball held in place with a crimp. The barrel end cap fits onto an external screw thread on the barrel. Solid steel piston rod $^{5}/_{16}$ inch in diameter with leather back-to-back cup washer piston. Sprayer [45] has the faint remains of a MYSTO man decal. Polychromatic gold finish.

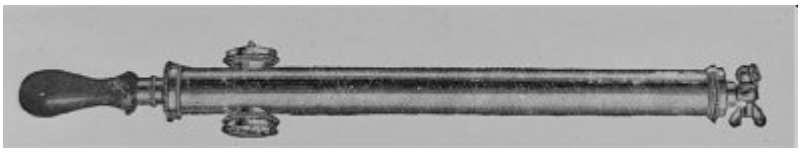
Above :- [627] {1} Barrel length 16 inches and diameter ⅞ inch. Fixed spray nozzle with separate fast-fill valve controlled by a ball held in place with a crimp. The barrel end cap screws onto an external screw thread on the barrel. Solid steel piston rod $^{5}/_{16}$ inch in diameter with leather back-to-back cup washer piston. Cardboard, green Mysto box. 1960s. Mysto man logo on a polychromatic gold finish.

W T French

Above :- [104] {1} Barrel length 16 inches and diameter ⅞ inch. Fixed spray nozzle with separate fast-fill valve controlled by a ball held in place with a crimp. The barrel end cap screws onto an external screw thread on the barrel. Solid steel piston rod $^{5}/_{16}$ inch in diameter with leather back-to-back cup washer piston. Cardboard, blue ASL box. 1960s. Remains of ASL Decal on a polychromatic gold finish.

MODEL 10

This model appears in the 1938 catalogue but not later. It came in three sizes. 16 inches by 1¼ inches, 18 inches by 1½ inches and 20 inches by 1¾. Fixed very fine mist spray, rose and jet with holder on barrel for nozzles not in use. All nozzles were fitted with fast-fill valves. Stuffing box.



MODELS 11 and 12 (and similar).

In 1938 model 11 was available in three sizes as part of the Florists' Friend range - 16 inches by ⅞ inch, 14 inch by 1 inch and 20 inch by 1 inch. After this only the 16 inch version is in the catalogues. They have an integrated fast-fill valve on a spray head incorporating a bend. Model 11 features in the 1948 and 1949 catalogues with a polished brass syringe but does not appear after this. Model 12 appears in the 1956 catalogue with a polychromatic gold finish. A few of these sprayers can be specifically identified to model as they come with their boxes or have the model number on the barrel. However, most have no indication of model number. There is considerable variation, even between sprayers known to have the same model number.

Left :- This one of the earliest nozzles used on these syringes. The spray plug (centre top) screws into the fast-fill valve stud (centre bottom) and the whole assembly fits inside the nozzle casing. The assembly is not held in so is easily lost.

W T French

Left :- The fast-fill valve stud (third from left) fits into the casing. It is washer side first. It is held in with the spray plug (right).

Left :- The fast-fill valve stud (third from left) fits into the casing, washer side first. It is held in with the spray plug (right). Nozzle cap is of a different design to the one above.

Left :- The removable nozzle. This appears to be on earlier versions of this model. It is associated with both the solid brass and hollow brass piston rods.

Left :- Pistons rods on these models can be solid brass (left) hollow brass (centre) or solid steel (right). Both the brass piston rods are associated with the early spray nozzle. I suspect the solid brass rod is earlier. The steel rod is used on later versions.

Above :- [809] {2} Mysto on a metal plate. Barrel length 16 inches and diameter ⅞ inch. Removable spray nozzle of the early type. Back-to-back leather cup washer piston. Piston rod is solid brass $^{5}/_{16}$ inch in diameter. Missing its fast-fill valve.

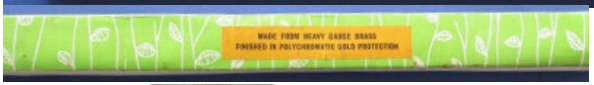
Above :- [619] {2} W T French & Son and Mysto on a metal plate. Barrel length 16 inches and diameter ⅞ inch. Removable spray nozzle of the early type. Back-to-back leather cup washer piston. Piston rod is hollow brass ⅜ inch in diameter.

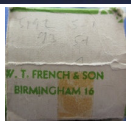
Above :- [225] {2} Mysto embossed on bend. Barrel length 16 inches and diameter ⅞ inch. Fixed spray nozzle of the early type. A bar at the mouth of the bend stops the ball moving into the barrel. Back-to-back leather cup washer piston. Piston rod is hollow brass ⅜ inch in diameter. This sprayer appears to be the one illustrated in the 1948 catalogue.

W T French

Above :- [539] {2} Mysto embossed on bend, plus Mysto engraved on barrel. Barrel length 16 inches and diameter ⅞ inch. Polished brass. Spring on solid steel piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washers. Nozzle has the stud type fast-fill valve held in with the spray plug. Probably dating early 1950s.

Above :- [101] {2} Mysto embossed on bend, plus Mysto engraved on barrel. Barrel length 16 inches and diameter ⅞ inch. Lacquered brass. Spring on solid steel piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washers. Nozzle has the stud type fast-fill valve held in with the spray plug. Probably dating early 1950s. A version of this sprayer is known which has a Mysto Man logo as well as the engraving. Cardboard box with label.





Above :- [161] {2} Mysto embossed on bend, plus Mysto Man (Mysto 12) decal. Label explaining the polychromatic gold finish. Barrel length 16 inches and diameter ⅞ inch. Spring on solid steel piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washers. Nozzle has the stud type fast-fill valve held in with the spray plug. Cardboard box with label and price of 16/3 which dates it around 1956. Note that the diameter of the bend is now slightly smaller.

W T French

Above :- [329] {2} Mysto embossed into bend, plus Mysto Man decal, but without the sprayer number. Barrel length 16 inches and diameter ⅛ inch. Spring on solid steel piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washers. Nozzle has the stud type fast-fill valve held in with the spray plug. ASL cardboard box which dates it after 1963.

MODEL 15

In the 1938 catalogue, but not later.

Above :- [223] {2} Mysto plate with no number. Barrel length 16 inches and diameter ⅛ inch. Removable spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Drip preventer 6 inches long. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. There is a collar on each end of the barrel. Fitted with an adjustable nozzle with a stuffing box seal of leather washers.

Above :- [291] {2} Mysto plate with no number. Barrel length 16 inches and diameter ⅛ inch. Removable spray nozzle with separate fast-fill valve controlled by a ball held in by a by a bar. Drip preventer 5 inches long. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. There is a collar on each end of the barrel. Fitted with an adjustable nozzle with a stuffing box seal of leather washers.

W T French

MODEL 18

Described in the 1938 catalogue as being the same as model 15 but with an additional rose nozzle and holder on the barrel. Probably looking like [281] below but with an adjustable spray nozzle.

MODEL 9/15/18 Variations

These models do not appear in any catalogue I am aware of. They appear to be an adaptation of other models. However, because the spray heads are removable it may be that they were assembled by a retailer using parts from various models.

Above :- [201] {2} Mysto plate with no number. Barrel length 16 inches and diameter ⅞ inch. Removable spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Drip preventer 6 inches long. Rose nozzle. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. There is a collar on each end of the barrel.

Above :- [485] {2} Mysto plate with no number. Barrel length 16 inches and diameter ⅞ inch. Removable spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Drip preventer 6 inches long. Rose nozzle. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. There is a collar on each end of the barrel.

Above :- [544] {2} Mysto plate with no number. Barrel length 16 inches and diameter ⅞ inch. Removable spray nozzle with separate fast-fill valve controlled by a ball held in by a bar. Rose nozzle. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. Collar on front of barrel. Barrel end cap screws directly onto an external thread on the barrel.

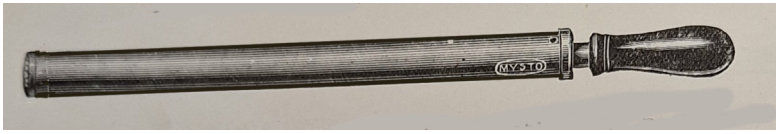
W T French

MODEL 48/49.

Model 48 has a barrel length18 inches with a diameter of 1½ inches. Galvanised iron barrel. Brass rose and top. Steel piston rod. Back-to-back leather cup washers. Model 49 is similar, but has a zinc barrel. Both are in1938 catalogue, but not after.

MODEL 97

Barrel length 16 or 18 inches with a diameter of 1¼ inches. The model is in the 1938 and 1948 catalogue shown as having a detachable rose and being made of polished brass. The model is not mentioned after this.



MODEL 97A Barrel length 12 inches with a diameter of 1 inch. Also 16 or 18 inches with a diameter of 1¼ inches. The model is in the 1938 catalogue shown as having a fixed rose and being made of polished brass. The model is not mentioned after this but must have been available (see below).

Above :- [535] {2} An example of Model 97A. Barrel length 16 inches and diameter 1¼ inches. Fixed rose. Without collars on the ends of barrel. The piston rod is solid brass. No stuffing box. Back-to-back leather cup washer piston. Decal is worn oval MYSTO type. Remains of a lacquered finish. This is a later version than that shown in the 1948 catalogue. From decal and finish estimated as being early 1950s.

MODELS 98/1 and 98/2. In the 1938, 1948 and 1949 catalogues the finish is shown as polished brass and available with one rose and one jet (Model 98/1) or two roses and one jet (Model 98/2). In the 1956 catalogue only the 98/1 is mentioned. In the 1958 catalogue model 98/1 is mentioned with the gold polychromatic finish. This model has collars on each end of the barrel. It is a very basic design without a stuffing box. The consistent difference between the 98 and the 101 models is that the 101 models do have a stuffing box. However, within the models there a number of different versions. Available as 1½ inches by 16 inches and 1½ inches by 18 inches.

W T French

Above :- [146] {2} Examples of Model 98/1. Barrel length 18 inches and diameter 1⅜ inches. No stuffing box. There is a collar on each end of the barrel. Piston rod is solid steel $^{5}/_{16}$ inch in diameter. It has a spring. Back-to-back leather cup washer piston. Decal is the Mysto Man type with the model number. Remains of a lacquered finish. This version is later than the one illustrated in the 1948 catalogue. From decal and finish estimated as being late 1950s. Note the slightly different location of the spare nozzle and the decal. The barrel end cap is of the 'pressed' type.

Above :- [796] {2} Examples of Model 98/1. Barrel length 16 inches and diameter 1⅜ inches. No stuffing box. Piston rod is solid steel $^{5}/_{16}$ inch in diameter. It has a spring. Back-to-back leather cup washer piston. Mysto Man decal logo with number. Rose and jet nozzle. Lacquered finish. There is a collar on each end of the barrel.

MODELS 98AC

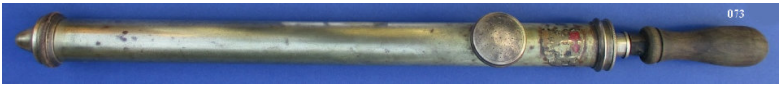
Similar to 98/1, but without a collar on the front end of the syringe. In the 1938 catalogue, but not later.

MODELS 101/1 and 101/2. In the 1938 catalogue in sizes 1¼ inches by 16 inches, 1½ inches by 18 inches, 1¾ inches by 20 inches and 2 inches by 20 inches. In the 1948 catalogue only in 16 inches by 1¼ and 18 inches by 1½ inches. Detachable nozzle with holder for nozzle not in use. In the 1948 catalogue the finish is described as polished brass and available with one rose and one jet (Model 101/1) or two roses and one jet (Model 101/2). In the 1956 catalogue only Model 101 is mentioned. In 1957 model 101/1 is mentioned as having a polychromatic finish. They are better quality than the 98 model as they have a stuffing box. They have brass piston rods. This model is known with an engraved MYSTO logo, a round MYSTO decal but not as yet with a MYSTO Man decal. There seems to be some variation in the placement of the spare nozzle holder on the barrel.

W T French

Above :- [805] {2} Example of Model 101/1. Barrel length 18 inches and diameter 1⅜ inches. With collars on each end of the barrel and a stuffing box. Piston rod is solid steel $^{5}/_{16}$ inch in diameter. It has a spring. Back-to-back leather cup washer piston. MYSTO in an oval engraved on the barrel. Also "W T FRENCH & SON" and "MADE IN ENGLAND" engraved on barrel. This is possibly an early version of this model, just post WW II. There is a collar on each end of the barrel.

Above :- [238] {2} Example of Model 101/1. Barrel length 18 inches and diameter 1⅜ inches. There is a collar on each end of the barrel. Stuffing box. Piston rod is solid brass $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washer piston. Decal is worn MYSTO oval type. Similar to illustration in the 1948 catalogue, but the holder for the spare nozzle is located further down the barrel.



Above :- [073] {2} Example of Model 101/1. Barrel length 18 inches and diameter 1⅜ inches. There is a collar on each end of the barrel. Stuffing box. Piston rod is hollow brass $^{5}/_{16}$ inch in diameter without a spring. Back-to-back leather cup washer piston. Decal is worn MYSTO oval type. Appears to be as illustrated in the 1948 catalogue. Note the slight difference in the placement of the spare nozzle.

Above :- [053] {2} Examples of Model 101/1. Barrel length 18 inches and diameter 1¼ inches. There is a collar on each end of the barrel. Has a stuffing box. Piston rod is solid brass $^{5}/_{16}$ inch in diameter with a spring. Back-to-back leather cup washer piston. Decal is the remains of the MYSTO oval type. Rose and jet nozzles. Appears to be as illustrated in the 1948 catalogue.

Above :- [308] {2} Example of Model 101/1. Barrel length 18 inches and diameter 1⅜ inches. There is a collar on each end of the barrel. Has a stuffing box. Piston rod is solid brass $^{5}/_{16}$ inch in diameter with a spring. Back-to-back leather cup washer piston. Rose and jet nozzles. Decal is the remains of an oval MYSTO logo. Probably a late version of this sprayer.

W T French

MODEL 101AC/1 and 101AC/2

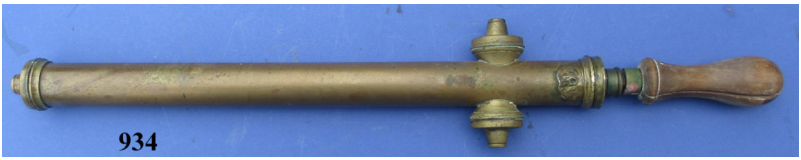
In the 1938 in catalogue only. Simple syringe without a drip preventer. Barrel diameter 1½ inches. Available with barrel lengths of 16 and 18 inches. Described as having heavy cast fittings with a collar on the front end of the barrel. Model 101AC/1 was supplied with one rose and a jet. Model 101AC/2 was supplied with two roses and a jet. There were holders on the barrel for nozzles not in use.

MODEL 108

In the 1938 in catalogue only. Barrel diameter ⅞ inch with a length of 12 inches. Described as 'Fine Sprayer. Detachable to give straight jet only when required'.

MODEL 111/2

Mentioned in the 1938 catalogue but not in any later catalogues. Described as having ball valves for easy filling, and as having a combined cotton and leather plunger.



Above :- [934] {4} Barrel length 16 inches and diameter 1⅜ inches. It has a solid brass piston rod $^{5}/_{16}$ inch in diameter and a cotton reel type piston supplemented with a single leather cup washer. Two rose nozzles both with a fast-fill valve in centre. Jet nozzle with integrated fast fill valve. Mysto on plate over air vent. Packed stuffing box. Holders on barrel for nozzles not in use. There is a collar on each end of the barrel.

Right :- The nozzles with ball controlled central fast-fill valve.

Left :- The Mysto plate covering the air vent.

L

W T French

Above :- [476] {3} Barrel length 18 inches and diameter 1⅜ inches. Cover over air vent embossed MYSTO. Jet nozzle (bottom holder) has a separate fast-fill valve controlled by a ball held in with a bar. Two rose nozzles both with central fast-fill valves. Solid brass piston rod $^{5}/_{16}$ inch in diameter. It has a cotton reel piston ⅜ inch in length supplemented with a forward facing leather cup washer. There is a collar on each end of the barrel.

MODEL 119

This model is in the 1938 and 1948 catalogue as polished brass with barrel length of 16 or 20 inches with a diameter of 1¼ inches. In the 1949 and 1956 catalogue only the 20 inch version is mentioned and the model does not appear in the 1957 catalogue. The fast-fill ball valve is in the spray head and used by all the nozzles. Provided with a moveable (swivel) fine spray nozzle, a rose and a jet nozzle.

Above :- [174] {2} Remains of round Mysto decal. Barrel engraved with 'MADE IN ENGLAND'. Barrel length 16 inches and diameter 1¼ inches. Fixed spray head with fast-fill valve, which is used by all nozzles. Fast fill valve is controlled by a ball held in with a crimp. Jet nozzle shown on holder. Swivel nozzle is shown attached. Missing rose nozzle. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washers. Signs that it may have been lacquered. Barrel end cap screws directly onto an external thread on the barrel.

Above :- [479] {2} Barrel engraved with 'MADE IN ENGLAND' . Barrel length 20 inches and diameter 1¼ inches. Spray head with fast-fill valve, which is used by all nozzles. Fast fill valve is controlled by a ball. Swivel spray nozzle shown attached. Rose and jet nozzle shown on holder. Solid brass piston rod $^{5}/_{16}$ inch in diameter with spring. Back-to-back leather cup washers. There is a collar on each end of the barrel.

W T French

Above :- [474] {2} Barrel engraved with 'MYSTO MADE IN ENGLAND' and remains of Mysto round decal. Barrel length 20 inches and diameter 1¼ inches. Spray head with fast-fill valve, which is used by all nozzles. Fast fill valve is controlled by a ball. Swivel spray nozzle shown on holder. Rose nozzle shown attached. Solid brass piston rod $^{5}/_{16}$ inch in diameter with spring. Back-to-back leather cup washers. There are signs that it may have been lacquered. There is a collar on each end of the barrel.

Above :- [074] {2} Barrel length 20 inches and diameter 1¼ inches. Spray head with fast-fill valve, which is used by all nozzles. Mysto Man decal showing model number. Fast fill valve is controlled by a ball. Swivel spray nozzle shown attached. Rose and jet nozzles shown on holder. Solid brass piston rod $^{5}/_{16}$ inch in diameter with spring. Back-to-back leather cup washers. Signs that it may have been lacquered. There is a collar on each end of the barrel. Sprayer [947] is similar but does not have an air vent (probably a manufacturing blip).

MODEL 250

Only in the 1938 catalogue. The ROSENJET syringe. Available in two sizes. Barrel length 16 inches and diameter 1¼ inches and barrel length 18 inches with a diameter of 1½ inches. The ROSENJET brand belonged to R.Harris (Brassfounders), so the inclusion of these syringes suggests some degree of cooperation between the two companies.

Above :- [078] {2} R.Harris (Brassfounder) ROSENJET syringe. Barrel length 18 inches and diameter 1 $^{7}/_{16}$ inches (nominally 1½ inches).

W T French

OTHER SYRINGE MODELS

The following are syringes which are not marked with a model number and which I cannot find in any catalogues.

Above :- [213] {3} Barrel length 18 inches and diameter 1⅜ inches. It has a solid brass piston rod $^{5}/_{16}$ inch in diameter and a leather back-to-back cup washer piston. Rose nozzle with fast-fill valve in centre. Incomplete spray nozzle with fast-fill valve (see nozzle attached to barrel). Mysto engraved on barrel end cap. It is similar to 111/2 and may be a version is this.

Left :- [213] MADE IN ENGLAND engraved on barrel end cap.

Left :- [213] The inside of the spray nozzles, showing the ball and the crimped cage holding in in place.

Right :- [213[Inside of the rose nozzle with the central fast-fill valve of similar design.

Above :- [510] {4} Barrel length 16 inches and diameter 1¼ inches. Remains of MYSTO oval logon and engraved 'Made in England'. The nozzle as fitted on the above appears to be a jet nozzle built into a bend. The alternative nozzle is a rose. Neither have fast-fill valves. Piston rod is solid brass $^{5}/_{16}$ inch in diameter. Piston is back-to-back leather cup washers.

W T French

Tinplate and Plastic (Syringes and Self Supplying)

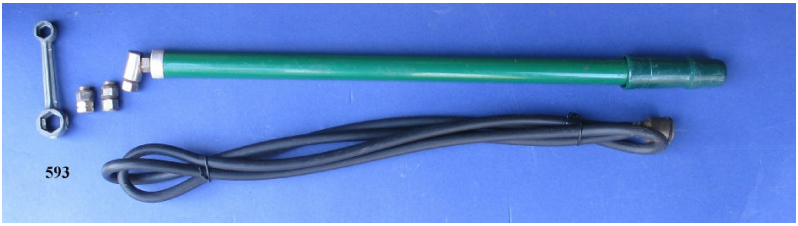
They made several very simple syringes in tinplate or plastic. These were made in the later years of the company, probably to try and compete with cheap imports. They were produced with several different names. Some with spray nozzles with integrated fast-fill valves and others with fixed rose nozzles. In 1961 Apex Sprayers became part of Warne, Wright and Roland as Apex Sprayers Ltd and some Apex Sprayers were sold under this company name and possibly also by ASL.

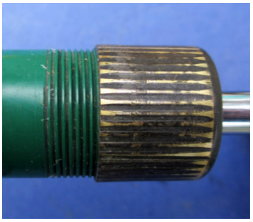
Above :- [349] {2} ASL plastic syringe. Barrel length 15 inches and diameter 1⅜ inches, Fitted with a back-to-back leather cup washer piston on a solid steel piston rod. Spray nozzle with integrated fast-fill valve. Barrel end cap is wooden held in with a screw.

Above :- [483] {2} ASL painted tinplate syringe. Barrel length 17 inches and diameter 1⅜ inches, Fitted with a back-to-back leather cup washer piston on a solid steel piston rod. Rose nozzle (perforated tin). Barrel end cap is wooden held in with a screw.

Above :- The logo from the NEW BOND spraying syringe. The syringe was very similar to [483] above,

Above :- [75] {4} MYSTIC SYRINGE. A MYSTO syringe. Plastic barrel length 14 inches and diameter 1¼ inches. Plastic end cap, and fixed plastic rose nozzle. White metal piston rod ¼ inch in diameter. Wooden handle





Above :- [593] {2} Apex Sprayers Ltd continuous action sprayer. Engraved APEX SPRAYER NO 10. Documentation dated 13 January 1963 shows Apex Sprayers Ltd spares sales being managed by W T French and Son at Mysto Works, Browning Street. Apex Sprayers Ltd was incorporated into Associated Sprayers shortly after this. Piston seal is two flat rubber washers. There is a spring on the piston rod. Strainer has a simple plastic disc as a valve. Front valve is in the nozzle and is a simple plastic disc valve. This sprayer has a metal barrel end cap which screws onto an external thread on the barrel. It has an accessory kit which includes two additional nozzle and a spanner to change them. Date is around 1961. Probably the Apex syringes were also sold by ASL for a short period. See the chapter on APEX sprayers for more details.

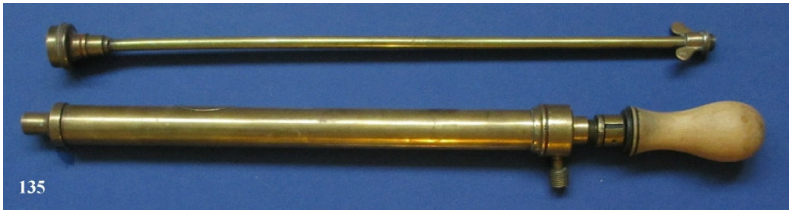
W T French

SELF SUPPLYING SPRAYERS

Several types of self supplying sprayers are known. The Mysto NIPPY single action sprayer, the LADYWOOD continuous action sprayer (a Solo type sprayer), the HIGHLAND self supplying sprayer and the GEM double action sprayer, are those most frequently encountered. These sprayers all work on different principles so the details are included with the examples below.

MYSTO NIPPY

The NIPPY is a single action sprayer which means that it only sprays on the push stoke. Available pre 1938 until 1960s. There is some variation in the NIPPY over time. Early versions have a metal plate. This is followed by the oval Mysto decal and then the Mysto Man decal. The shape of the rose nozzle changes and the position and number of nozzle caps also changes. Internally, the piston valve remains similar, although, on later versions, the ball is held in by a spilt pin rather than a screw-in component. It also appears that not all versions have a valve in the strainer. This valve is not strictly necessary for the operation of the sprayer. Versions with plain brass finish, lacquered finish and polychromatic gold finish are known. Advertised for garden and disinfecting purposes.



Above :- [135] {2} MYSTO NIPPY. Plate with Mysto Nippy. The rose nozzle is of the design in the 1946 advertisement and 1948 catalogue. Missing the swivel spray nozzle, but there is a holder on the barrel for this. Barrel length 12 inches and diameter 1 inch. 15 inch lance. Hose and strainer are missing. Internally it has a solid brass piston rod. The piston is a forward facing leather cup washer. Front valve is where the lance screws in and is a ball valve. Piston valve is ball controlled valve which when open allows liquid to flow through the centre of the piston and out through the holes. The piston rod is of solid brass and the piston and the valve are a separate soldered on component.

W T French

Above :- [338] {2} MYSTO NIPPY. Oval decal. Swivel spray nozzle with interchangeable rose nozzle and a jet nozzle. The rose nozzle is of the later type. Barrel length 12 inches and diameter 1 inch. 15 inch lance. Rubber hose (6ft) with strainer which has a ball valve. Internally it has a solid brass piston rod. The piston is a forward facing leather cup washer. Front valve is where the lance screws in and is a ball valve. Piston valve is ball controlled with the ball held in with a split pin.

Above :- [589] {4} MYSTO SUPER NIPPY. A chromium plated version of the MYSTO NIPPY. Swivel spray nozzle with rose and jet nozzles. The rose nozzle is of the later type. Barrel length 12 inches and diameter 1 inch. 15 inch lance. Rubber hose (6ft) with strainer but without valve. Internally it has a solid brass piston rod. The piston is a forward facing leather cup washer. Front valve is where the lance screws in and is a ball valve. Piston valve is ball controlled held in with split pin.

W T French

Above :- [856] {2} Mysto Man decal with NIPPY model mentioned. Swivel spray nozzle with rose and jet nozzles. The rose nozzle is of the later type. Barrel length 12 inches and diameter 1 inch. 15 inch lance. Hose and with strainer missing. Internally it has a solid brass piston rod. The piston is a forward facing leather cup washer. Front valve is where the lance screws in and is a ball valve. Piston valve is ball controlled held in with a split pin.

MYSTO 39 - GEM

Based on patent GB267417A dated 17 March 1927. Advertised in the Gamage's Catalogue 1927, and in W T French 1938 and 1948 catalogues for limewashing, disinfecting and spraying creosote. It does not feature in later catalogues. In the catalogues it is shown as having a 2ft lance, bend, 10 ft of hose with a strainer. The patent does not specify a valve in togue ainer. It was also provided with a metal sieve type strainer. This sprayer has an internal barrel. Both valves are in the centre unit where the hose connects. It is a continuous sprayer which uses air trapped in the barrel to provide a spray on the pull stroke. The patented baffle stops the loss of air when the sprayer is tilted. For more details on the operation of this sprayer please see Volume 1 in this series.

Above :- [160] {2} Mysto Gem 39. Fitted with limewashing nozzle with inbuilt pin for clearing blockages. The operator tapped the nozzle on a hard surface to force the pin through the nozzle opening to clear any blockage. Barrel length 18 inches and diameter 1¼ inches. Solid brass piston rod with back-to-back leather cup washer piston. Provided with jet and spray nozzles.

W T French

THE HIGHLAND - Self supplying sprayer

Illustrated in the 1938 catalogue but not later.

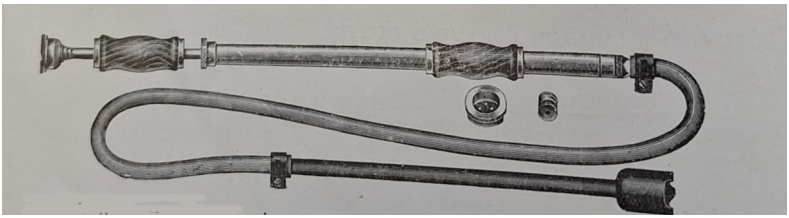
Above :- [426] {4} Hose and strainer missing. The hose was push fit. Barrel length 16 inches with a diameter of ⅞ inch. Solid brass piston rod ⅜ inch in diameter. The piston uses standard back-to-back leather cup washers. There is an air vent and drip protector, but it does not have a stuffing box. The nozzle is adjustable to give a range of sprays. Adjustment is made by turning the top fitting in the picture which changes the size of the atomising chamber.

Left :- Adjustable nozzle. Turning the cap changes the size of the atomising chamber. This is the same approach as used on the majority of modern adjustable nozzles. However, a fibre washer is provided to seal the component rather than the rubber 'O' ring which would be used today. A rose nozzle was also provided and a holder on the barrel for the nozzle not in use.

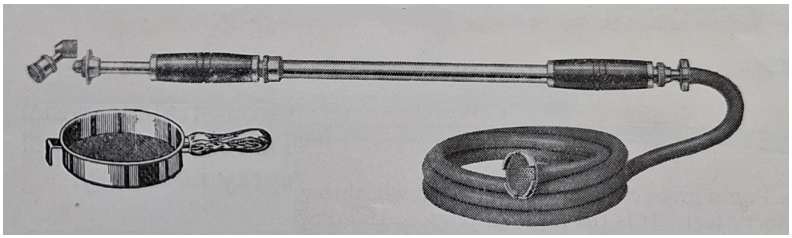
CONTINUOUS HAND SPRAYERS (SOLO Type)

The 1938 catalogue lists two sprayers of this type. They are the LADYWOOD SPRAY PUMP (Model 38) and the LADYWOOD JUNIOR SPRAYING OUTFIT (Model 40a). In the 1948 catalogue the LADYWOOD (Model 40) sprayer is the only one of this type listed. The 1956 catalogue features additional models. All these sprayers are relatively rare, possibly because SOLO Ltd sprayers dominated the market for this type of sprayer. The 1956 catalogue includes Model 40, Model 40/1 and model 40/2. The 1958 catalogue includes the 40/3 Duplex Sprayer and the VINCENT sprayer, but not the other model 40 sprayers. The 40/3 and the VINCENT sprayers are described as being of modern design. They use rubber 'O' rings instead of the leather cup washers.

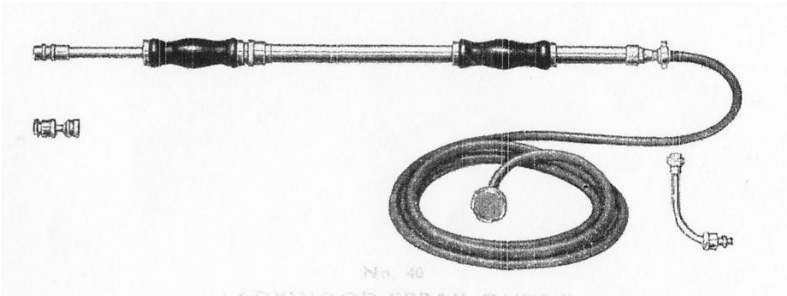
W T French



Above :- Mysto No. 38 LADYWOOD SPRAY PUMP (1938). True double action pump whereby the force applied by the user powers the spray on both the push and pull stroke. Described as a double action pump which will throw a solid stream of water 30 t0 40 feet. Uses identified are spraying trees, vines, hops, potatoes and any ground crops, whitewashing, disinfecting, and window cleaning. It had a solid brass pump and a heavy iron strainer. Provided with three nozzles.



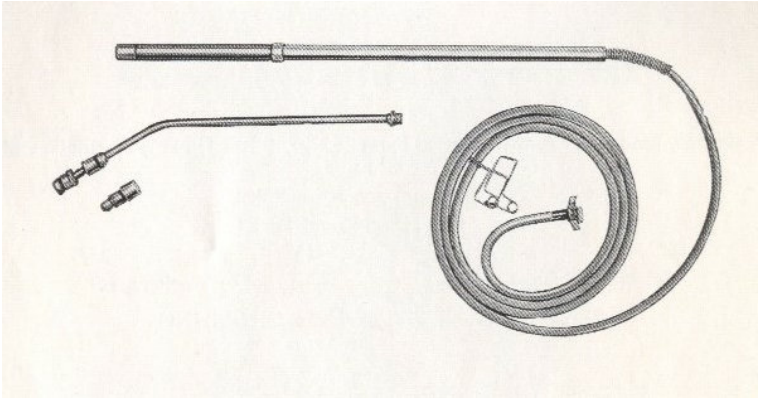
Above :- Mysto No. 40a LADYWOOD JUNIOR SPRAYING OUTFIT (1938). True double action pump without an air chamber. Uses identified are spraying of tall fruit trees, window and car washing, and applying limewash. It came with a straight jet nozzle and a uncloggable needle limewashing nozzle. The strainer was an optional extra. Rubber hose.



Above :- Mysto No. 40 LADYWOOD sprayer. True double action pump whereby the force applied by the user powers the spray on both the push and pull stroke. Barrel length 18 inches and diameter ¾ inch. Advertised in 1948 as all purpose. Spray nozzle, jet nozzle and limewashing nozzle were provided. This sprayer does not appear to incorporate an air chamber. Probably similar internally to the Mysto Duplex Spraying Outfit (see below). The LADYWOOD JUNIOR model No. 40/1 is the sprayer used in the outfit detailed below.

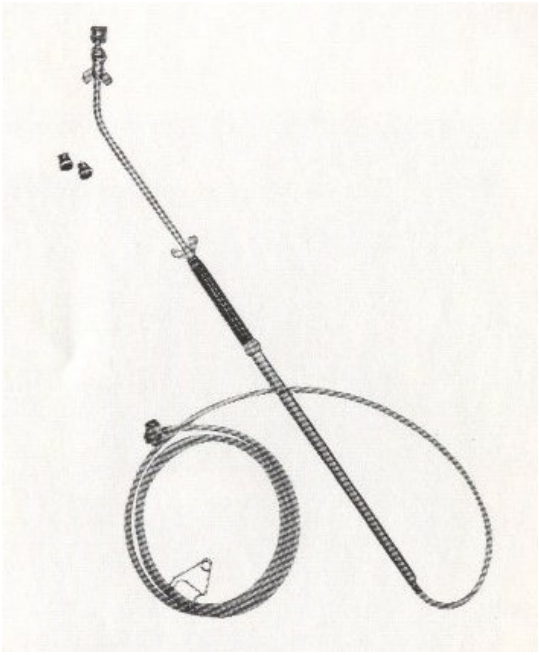
W T French

Above :- [327] {3} Mysto Duplex Spraying Outfit. True double action pump whereby the force applied by the user powers the spray on both the push and pull stroke. Barrel length 14 inches and diameter ½ inch. The outfit is included in the 1956 price list as the Duplex Model 40/2. Straight lance 18 inches long. Lance with bend 18 inches long. Plastic hose 10 ft long with strainer which does not have a valve. Bucket clip. Inlet valve is where the hose connects and is a ball valve. Piston is a single small leather cup washer. Has both a spring on the rod and a buffer washer. Lacquered bass construction. Not mentioned after the 1956 catalogue.



Above :- Model 40/3 Duplex Double Action Sprayer. Bent lance with 8 ft of clear plastic hose with bucket clip and brass suction strainer. Uncloggable nozzle and adjustable spray nozzle. Polychromatic gold finish.

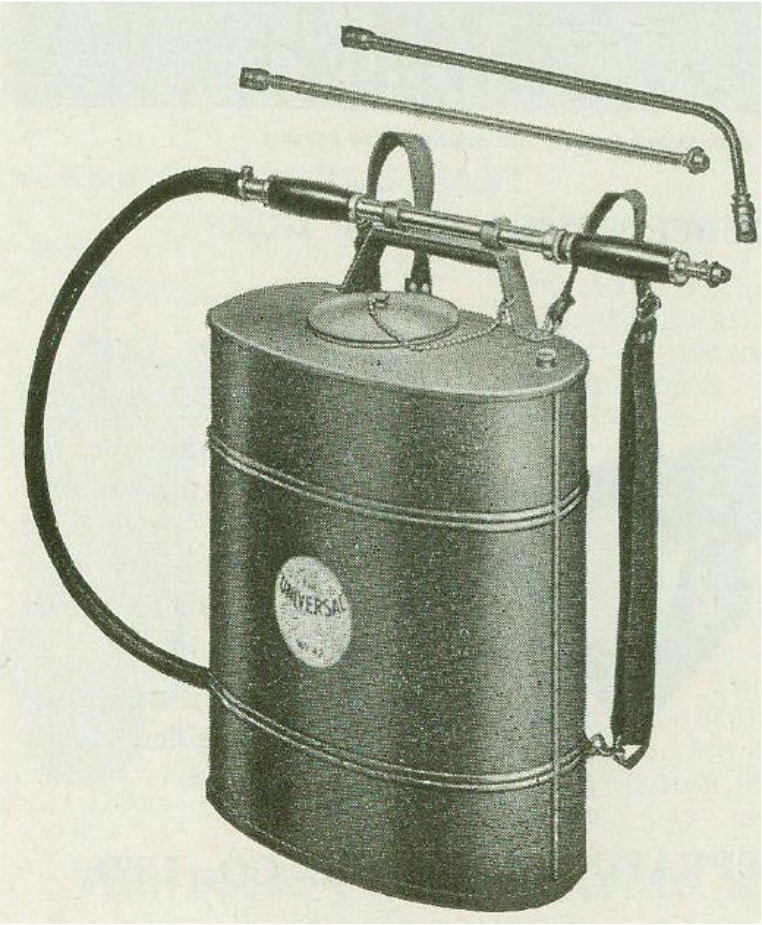
W T French



Left :- VINCENT Model, 40/3. Double Action Sprayer. Bent lance with 12ft of clear plastic hose with bucket clip and brass suction strainer. Uncloggable nozzle and cone spray nozzle. Polychromatic gold finish.

Above :- Model 41 from the 1948 catalogue. Uses the LADYWOOD sprayer connected to a three gallon galvanised container. Webbing or leather shoulder straps.

W T French



Above :- Model 42 UNIVERSAL KNAPSACK SPRAYING OUTFIT. Uses the LADYWOOD JUNIOR fitted to a galvanised steel container. Appears in the 1956 catalogue. Plastic hose.

MYSTO EASISPRAY

Mentioned in the Daily Mirror 6 April 1957. Designed to ‘work as you walk’. Featherweight sprayer. The sprayer was possibly made of plastic. It was filled from the top with liquid. The bottom was then placed on the ground with the sprayer held vertically and the outlet hose with the nozzle held in the other hand. Pressing down caused liquid to be pumped through the hose.

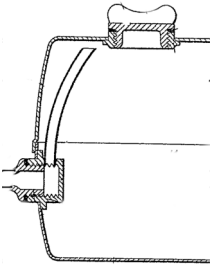
W T French

CONTINUOUS HAND SPRAYERS (With Container)

AUTO SPRAY

A 1924 patent (GB217300A) by Henry Lucien Reason was implemented by W T French as the Mysto AUTO SPRAY. This appears in the 1938 catalogue but not later.

Above :- [802] {4} Mysto model 12, AUTO SPRAY. Nickel-plated brass. Handle is missing from this example but known to have had a round handle. Mysto embossed on bottom and side of the container. Barrel length 8 inches and diameter 1 inch. Capacity ½ pint. The barrel on the right is an air pump and no liquid passes into the barrel. It has a single forward facing leather cup washer with a spring on the piston rod. The one way air valve is a ball contained at the end of the barrel. The container is filled from the top and sealed with the cap. The pump used to pressurize the container. This forces liquid in the container through a pipe and into the nozzle. The pipe in this sprayer curves upwards from its connection to the outlet pipe so that it only sprays when the sprayer is inverted. Turning the sprayer to the position with the cap on top allows the compressed air to escape and spraying stops.



Left :- Drawing showing the curved pipe leading from the outlet to the interior of the container. It is this feature which is covered by patent GB217300A dated 12 June 1924 by Henry Lucien Reason (1874-1844). In 1922 M.I.Mech.E., M.Inst.Met., General Manager, United Brassfounders and Engineers, Ltd., Birmingham. In 1923 United Brassfounders and Engineers, Ltd. moved to Ormskirk Lancashire. Possibly, Henry Lucien Reason left the company at this time and was working with or for W T French & Sons.

Left :- The bottom of the AUTO SPRAY (becomes the top when the sprayer is in use).

W T French

Right :- The piston and the nozzle from the AUTO SPRAY. A version with a rose nozzle is known.

MODEL 144

Shown in the 1948 and 1949 catalogues but does not appear in any of the later catalogues. Advertised as giving very fine atomisation. Capacity 1½ pints. In 1948 with either a polished brass or brass nickel-plated container. In 1949 just in polished brass. Air in the container is compressed by the air pump.

Above :- [431] {2} Mysto model 144. Oval Mysto decal on barrel. Barrel length 8 inches and diameter 1⅜. Capacity 1½ pints. This sprayer works by combining air under pressure with the liquid in the container. The barrel on the right is an air pump and no liquid passes into the barrel. It has a single forward facing leather cup washer. The one way air valve is a ball contained at the end of the barrel. The container is detached and filled with the liquid to be sprayed. It is then replaced, and the pump used to pressurize the container. This forces liquid in the container through a pipe and into the nozzle where it is mixed with pressurised air from the top of the container. This produces an extremely fine spray.

W T French

COMET

The 1956 catalogue lists the COMET all purpose hand sprayer. It did not appear in the 1957 catalogue, but was probably still available.

Above :- [269] {2} COMET sprayer. Oval Mysto decal on container. This sprayer is an implementation of patent GB608316A dated 14 September 1948 by Gerald Hickman of New Zealand. It works on a similar principal to model 144 combining air and liquid from a pressurised container. Brass air pump which uses a single forward facing cup washer. Barrel length 8 inches and diameter 1⅜ inches. Capacity 2 pints. The nozzle is adjustable by turning. The tap on the top controls the amount of liquid coming from the supply pipe in the container.

Left :- The main head of the sprayer.

Left :- The ball valve for the air pump. This screws into the head. Showing the feed pipe from the bottom of the container, with a mesh filter on the end.

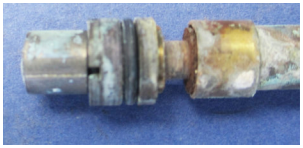
Left :- The nozzle with the nozzle cap removed. Air and liquid are mixed at this point. The nozzle screws in and out to adjust the spray.

W T French

MODEL 145 - MY LADY

Listed in the 1956 catalogue. Although it was probably still available, it did not appear in the 1957 catalogue.

Above : - [804] {3} MY LADY sprayer. Barrel length 9 inches with diameter of ½ an inch. Capacity 2 pints. Solid brass piston rod. The barrel passes through the container. Hidden within the container is a short brass tube which connects to the barrel and passes into the bottom of the container. The container is not pressurised and has an air vent in the filler cap. It has a front valve and a valve on the piston. Pushing the piston forward open the front valve and closes the piston valve. Liquid in the barrel is sprayed from the nozzle and liquid is sucked in from the container to fill the barrel behind the piston. On the pull stroke the front valve is closed and the liquid in the barrel passes through the piston valve so that it is in front on the piston ready for the push stroke.



Left :- The piston. Showing the sliding valve. on the piston. What appears to be a rubber washer on the piston is a hard metal ring. The exact composition of this is unknown.

Left :- The front valve. This is a spring loaded ball valve which fits into the front end of the barrel where it joins the bend and nozzle.

Left : The bend and nozzle. The nozzle is a fixed spray nozzle.

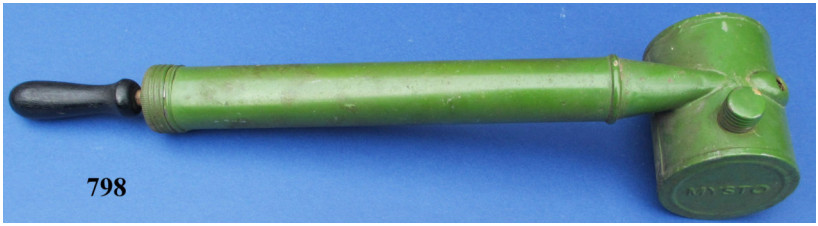
Left :- The decal from the MY LADY SPRAYER. This is different from the one illustrated in the 1956 catalogue.

W T French

ATOMISERS

MODELS 9/1 and 9/2 - Standard Pattern Sprayer

The 9/1 had a capacity of 1 pint and the 9/2 a capacity of 2 pints. In the 1938 catalogue both were available in plain tinplate, galvanised and enamelled dark green. In the 1948 and 1949 catalogues only model 9/1 is listed and the galvanised version is no longer available.

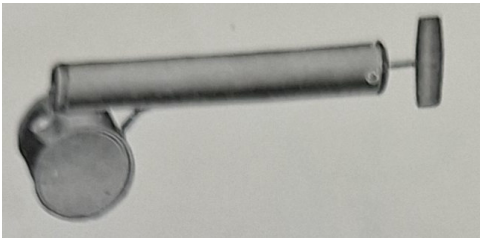


Above :- [798] {3} No.9/1 standard pattern atomiser. Tinplate sprayer available plain or painted green. Capacity 1 pint. Barrel length 10 inches and diameter 1¼ inches. Single forward facing leather cup washer. Uses the Venturi effect.

Left :- The nozzle. Showing the end of the tube coming from the liquid (bottom) and the end of the air supply tube.

MODELS 12 - Midget Sprayer

In the 1938 catalogue this model was available in plain tinplate or enamelled dark green. Capacity ½ pint. By 1948 it had been replaced by the model 15 Midget Sprayer.



W T French

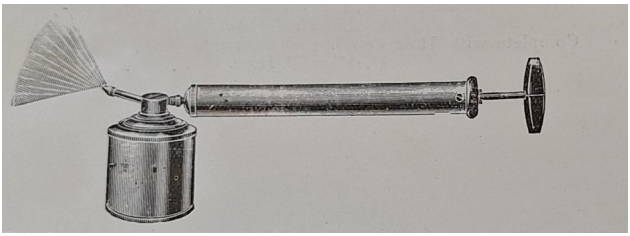
MYSTO-MORTIS - Fly Sprayer

Above :- MYSTO-MORTICE spraying outfit, Available in 1932. Appears to be similar to the Midget Sprayer.

W T French

MODEL 14

In the 1938 catalogue, but not after this. Available with a tinplate or a brass pump. Container capacity 1½ pints. The air pump was used to pressurize the container to give a continuous spray.



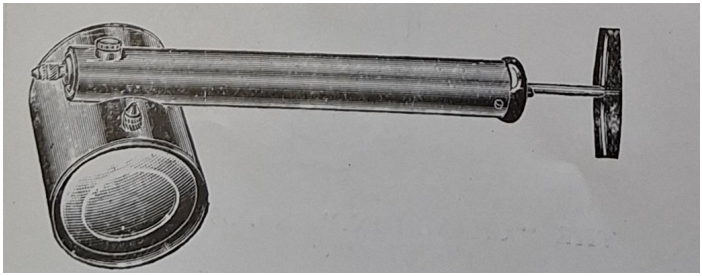
MODEL 15 - MIDGET SPRAYER

This model is in the 1948 and 1949 catalogues. It appears to have been a new design which replaced model 12.

Left :- No.15 MIDGET atomiser. It had a brass container. Probably works on the Venturi effect whereby air passing over the end of a tube sucks up liquid and mixes it with the air.

MODEL 16

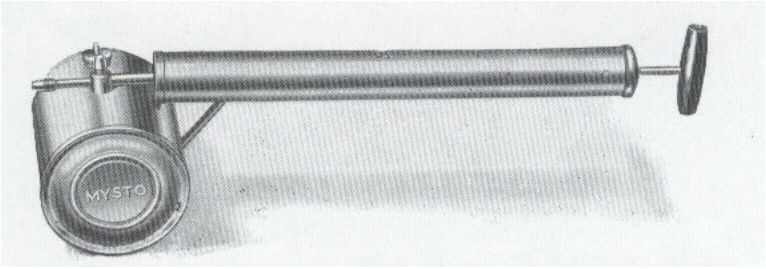
In the 1938 catalogue, but not after this. It had an all brass pump and container. It was provided with two spray nozzles. One for straight spraying and the other for angled spraying. Container capacity 1½ pints. The air pump was used to pressurize the container to give a continuous spray.



W T French

MODEL 19

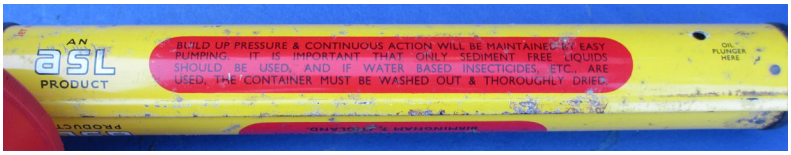
This model appears in the 1948, 1949 and 1956 and 1957 catalogues.



Above - No.19 Continuous Spray atomizer. Tinplate sprayer available plain or painted green. Capacity 1½ pints. This appears to be an implementation of patent GB211601A dated 28 February 1924. It is an adaptation of the approach used for model 144 and the COMET. This combines air and liquid from a pressurised container.

ASL SLAYER

Please refer to the chapter on Testar and Swain for earlier versions, and additional information.



Above :- [963] SLAYER. The barrel is 10 inches long with a diameter of 1⅜ inches. The piston rod is solid steel ¼ inch in diameter. The piston is a single forward facing cup washer. The barrel end cap is made of wood. The container is made of red plastic and is 2¼ inches high with a diameter of 3 inches. Capacity ½ pint.

W T French

PNEUMATIC HAND SPRAYERS

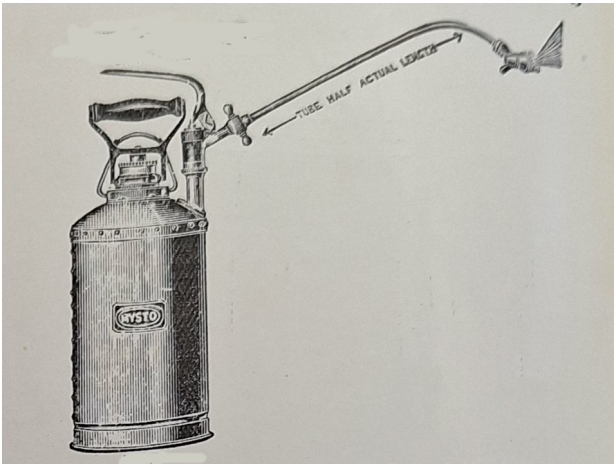
Models in the catalogues since 1938 are the No. 1, 3, 4, 5 and 6 Pneumatic Hand Sprayers and the No. 7 Patent Vaporiser.

Model 1 - Pneumatic Sprayer.

Nickel-plated brass container. Working capacity 1½ pints. Very fine spray. Specifically mentioned is cinema use. In the 1938 and 1948 catalogues.

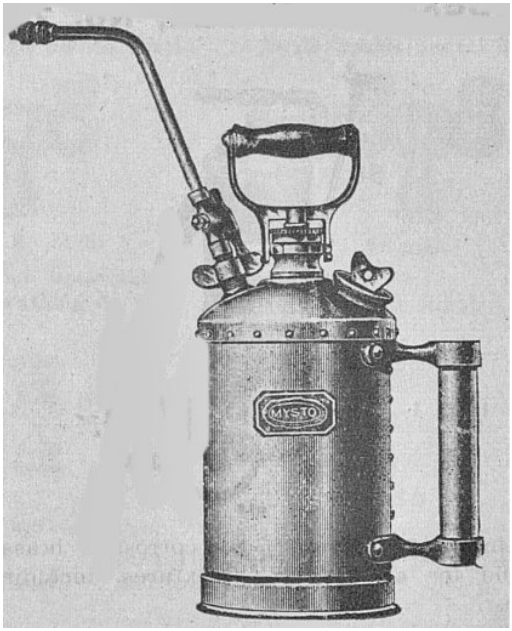
W T French

Model 3 - Pneumatic Sprayer.



Above :- Mysto No. 3 Pneumatic Hand Sprayer. Brass container Working capacity 3½ pints. Lever release. Filled by removing the pump. In the 1938 catalogue.

Model 4 - Pneumatic Sprayer.



In the 1918 catalogue and mentioned in 'The Scottish Cinema' newspaper in 1919 with exactly the same drawing as in the 1938 catalogue. In the 1938 catalogue advertised as being most useful for greenhouse work. Brass pump and extra fine sprayer. Copper container. Working capacity 3 pints. Hollow handle allows it to be attached to a bamboo pole.

Available chromium plated at an extra charge.

W T French

Model 5 - Pneumatic Sprayer.

The No. 5 was featured in the 1938 and remained available in 1949, 1951 and 1956 but it did not appear in the 1957 catalogue. In the 1938 catalogue the handle was wooden and T-shaped. By the time of the 1948 catalogue the handle had changed to a brass knob. In 1938 and 1948 it was available in both a 4 pint and 6 pint version, and also chromium plated.

Above:- [888 {4) Mysto No.5 Pneumatic Hand Sprayer. Brass container height 10 inches and diameter 4 inches. Theoretical capacity 4 pints. Mysto plate . Filler cap with automatic safety valve. Ten inch lance with tap. Missing the piston, which was probably a leather cup washer. This version has a 'T' shaped wooden handle as illustrated in the 1938 catalogue. Inset pictures show the pump valve, the filler cap with built in pressure release valve, and the piston with the spring on the piston rod. Also known with a W T French, Mysto plate (left).

W T French

Above :- [884] {4} Mysto No.5 Pneumatic Hand Sprayer 6 pint version. Brass container height 10 inches and diameter 5 inches. Remains of an oval Mysto logo. Filler cap with automatic safety valve. Ten inch lance with tap. Piston is a leather cup washer. Filler cap with built in pressure release valve.

Right :- The components of the piston valve.

W T French

Above :- [878] {3} Mysto No.5 Pneumatic Hand Sprayer. The insets show the filler cap, the tap, the logo, and the pump valve. Brass container height 10 inches and diameter 4 inches. Theoretical capacity 4 pints. Remains of an oval Mysto logo. Filler cap with automatic safety valve. Ten inch lance with tap. Missing the piston, which was probably a leather cup washer. After 1951.

W T French

Model 6 - Pneumatic Sprayer.

Included in the catalogues from 1948. However, there were a number of variations.

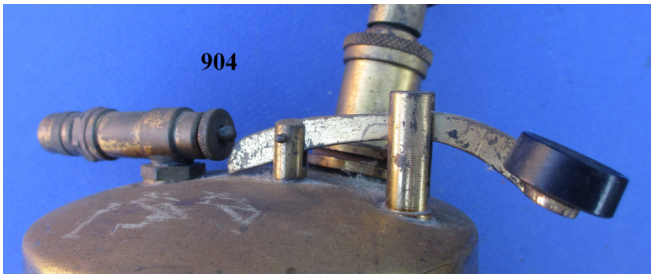
Left :- An illustration from the 1948 catalogue of the No. 6 sprayer. Note that it does not have the trigger control of the later versions of the model. This version without the trigger control was also available in 1949, with the trigger version also an option.

The sprayer could also be supplied with the spraying lance and shut-off tap.

Below :- An illustration from the 1949 catalogue of the No. 6 sprayer with the trigger release. Note the shape of the handle. The sprayer could also be supplied with the spraying lance and shut-off tap.

W T French

Below :- [904] Similar to the 1949 catalogue version, but the handle and logo are different. Container height 6 inches with a diameter of 4 inches. Capacity around 2 pints. Pump uses a single forward facing leather cup washer. Valve as in [849] below. Mysto decal.



W T French

Left :- [849] The 1951 catalogue version of the No. 6 sprayer. Remains of oval MYSTO decal. Container height 6 inches with a diameter of 4 inches. Capacity around 2 pints. Pump uses a single forward facing leather cup washer.

Available in the 1951 catalogue with or without a lance. Provided with two nozzles.

Below :- The pump valve. Missing a spring.

Right :- The version with the 1949 lever control . similar, showing the MYSTO decal and the box.

W T French

Left :- [267] {2} The later version of the No. 6 sprayer, Mysto Man decal on a polychromatic gold finish. Working capacity 2 pints. Available with an indoor nozzle for a very fine spray. Air pump barrel height 5 inches and diameter 1 inch. Forward facing cup washer with spring on solid steel piston rod. Available from late 1950s.

Left :- [590] Fetcham woodwork killer injector. Fitted with a special nozzle for us with Rentokil Fetcham woodworm killer.

Left :- Knob on earlier versions can be black.

Right :- The main valve and the piston with spring.

W T French

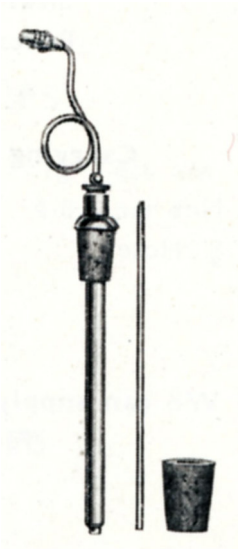
Model 6 - Polyspray

Above :- Advert for the Mysto Polyspray. Probably early 1960s pre-dating ASL. The Polyspray became an ASL product and was advertised in April 1965 as being available for 49/6. Later in 1984 there was the ASL Polyspray 2 which carried on as the Hoselock Polyspray 2 in the later 1980s.

W T French

Model 7 - VAPORIZER

Above :- Drawing of MYSTO No.7 vaporizer from the 1948 catalogue. In the 1938 catalogue sizes available were 6 inch, 9 inch, 12 inch, 15 inch and 18 inch. It was designed to be completely dismantled by removing the jet and lock nut.



HAND PUMPS

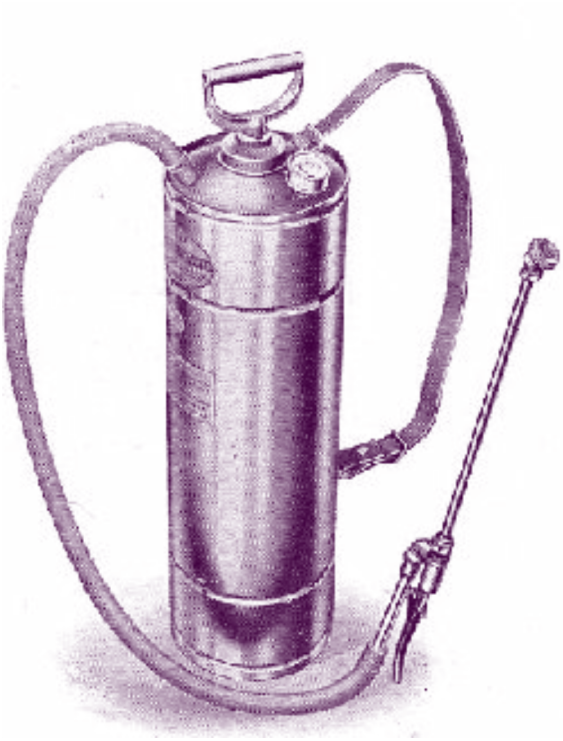
Left :- Drawing of the Bottle Sprayer from the 1951 catalogue. It was provided with the option of 6 inch rubber or metal extensions. This looks similar to the Germstroyd High Pressure pump.

Below :- Drawing of the Disinfectant Hand Spray, Baby Mysto from the 1951 catalogue.

W T French

PNEUMATIC BACKPACK SPRAYERS

These are the cylindrical sprayers shown in the catalogue as knapsack sprayers, but are more commonly known as backpack sprayers. The 1938, 1948 and 1949 catalogues list two models. Model 155 available in 1 gallon, 2 gallon and 3 gallon working capacity and the 'Heavy Pattern' available as model 7 (1 gallon), model 8 (2 gallon), model 9 (3 gallon) and model 10 (4 gallon). Of these models, model 155, model 9 and model 10 are in the 1956 catalogue. This catalogue has three additional models, the 156, 158 and 159. The 156 is a 3 gallon pressure retaining model. Model 158 (1¼ gallons) and 159 (1¾ gallons) are similar to model 155, but they have a separate liquid entry (filler cap) rather than needing to remove the pump as in model 155. In 1959 there is an advertisement for the Mysto "W" Simplex Sprayer.



Left :- Mysto 155. As illustrated in the 1948 catalogue. Available in 1, 2 and 3 gallon sizes. All available with a brass or galvanised cylinder. The pump and fittings are brass. Pressure gauge. The sprayer has a top hose connection which means there is a pipe from the bottom of the container to the outlet hose connection. This sprayer is filled by removing the pump. Probably, similar internally to model 158 covered in detail below. In the 1956 catalogue only the 2 and 3 gallon versions are listed and only with a brass container with a gold finish. Leather and webbing shoulder strap. Lever controlled tap with lance.

W T French

Left :- [375] {2} Mysto158. Full capacity 2 gallons and working capacity 1¼ gallons. Cylinder diameter 7 inches. MYSTO decal on brass cylinder finished in polychromatic gold. Air pump barrel length 14 inches and diameter 1¾ inches. Piston rod is hollow brass with a forward facing leather cup washer.

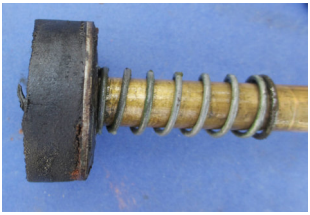
Valve is of the flap type. Model 159 was slightly larger. Webbing shoulder strap. Lever controlled lance and two nozzles, The nozzle not in use has a holder on the top of the cylinder.

The sprayer has a separate filler cap which is the main difference between it and model 155.

Below :- Interior view showing pipe which leads from the bottom to the hose connection.

Left :- The pump valve.

Below :- The hollow brass piston rod with spring and forward facing cup washer.



W T French

Below :- Pneumatic knapsack sprayer No.7 as illustrated in the 1918 catalogue. Full capacity 1¼ gallons and working capacity of 1 gallons. Container is brass and suitable for corrosive liquids. Double straps and back support. Fitted with two straps. Wooden handle. Lance. In 1918 fitted with a tap. Later with a lever operated control (as in photograph). Hose connection is at the bottom of the machine, Also available in 1918 was model 8 (full capacity of 2½ gallons with working capacity of 2 gallons) and model 9 (full capacity of 4 gallons with working capacity of 3 gallons).

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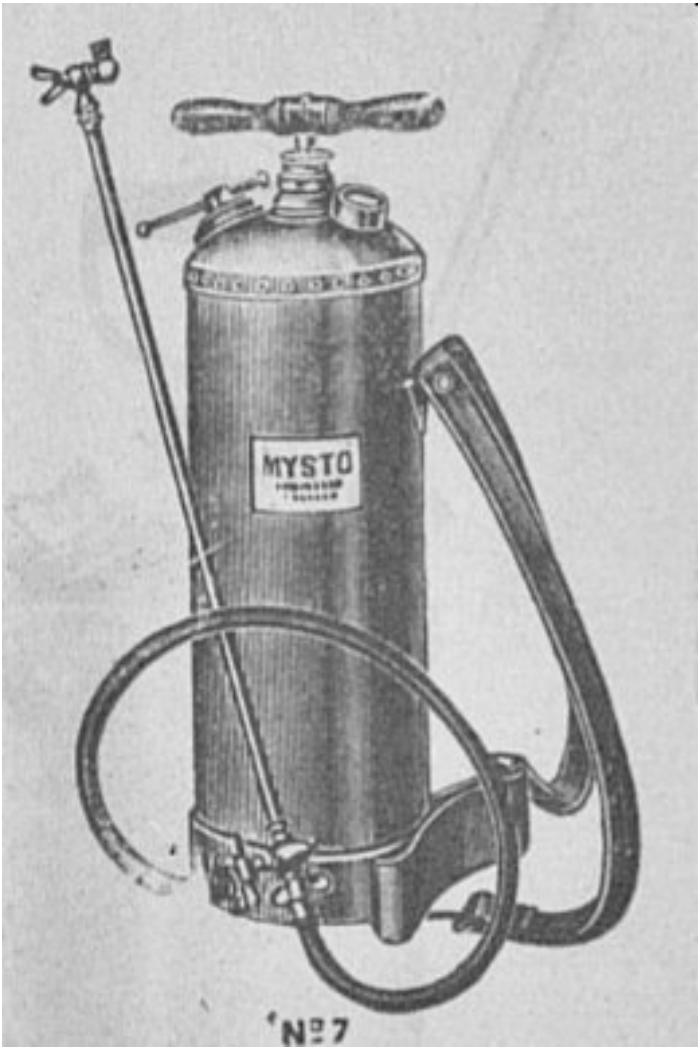

W T French

Left :- Heavy Pattern model 9 with 4 gallon capacity and working capacity of 3 gallons. Container is brass and suitable for corrosive liquids. Supplied with a filling strainer/funnel and a spanner. Double straps and back support. Fitted with two straps. Wooden handle. Lance. In 1946 fitted with a tap. Later with a lever operated control (as in photograph). Hose connection is at the bottom of the machine where there is also a tap

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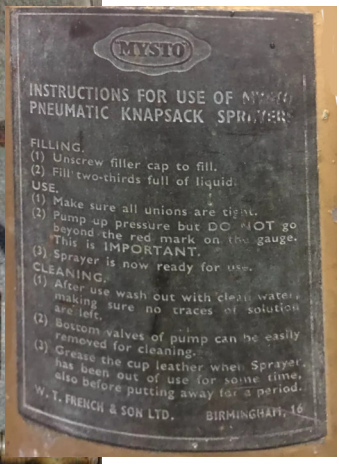
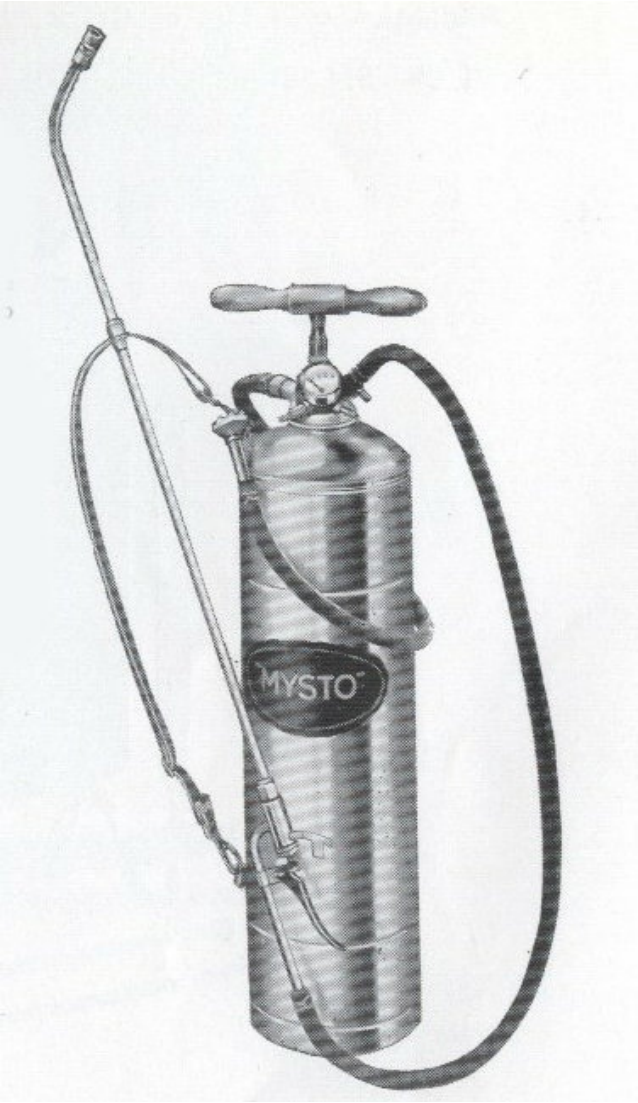


W T French



Above :- Model 156. Pressure Retaining Sprayer. This sprayer is charged through a suction hose. First, with the suction hose out of the liquid, the sprayer is pumped up to a specified pressure. The hose is then placed in the liquid and the sprayer charged with further pumping. A valve prevents the air being discharged once the liquid has run out. The sprayer can then be recharged with liquid without having to pump in more air. The exact method use in this sprayer has not been investigated, but it is probably similar to that used by the Four Oaks WEEFORD which uses two valves and a float valve.

W T French

Above :- Model Mysto "W" Sprayer. Available in 1, 2 and 3 gallon sizes and also as a stainless steel version. Below is a 1959 advertisement.

W T French

Above :- [932] {3} Mysto "W" Sprayer. Nominal capacity 2 gallons. Diameter 8 inches with a height of 11 inches. Polychromatic coated mild steel. Special resin coated interior. Air pump 8½ inches long with a diameter of 1½ inches. Appears to have had single forward facing rubber washer with a special mount. Air valve is a spring controlled rubber disc. 30 inch lance with lever controlled tap and adjustable nozzle. Webbing strap. Rubber hose. Separate filler. Air pressure relief valve.

Right :- Lid, pump valve, pump cylinder, piston rod and handle. Note the spring on the piston rod. The lid has a rubber seal.

W T French

Above :- Air pressure relief valve.

Above :- Interior. Shows the outlet pipe.

W T French

Above :- [505] Hoselock - KIllaspray Professional 12. Plastic container and plastic pump barrel.

Above :- ASL Killaspray. Probably 1970s.

W T French

KNAPSACK SPRAYERS

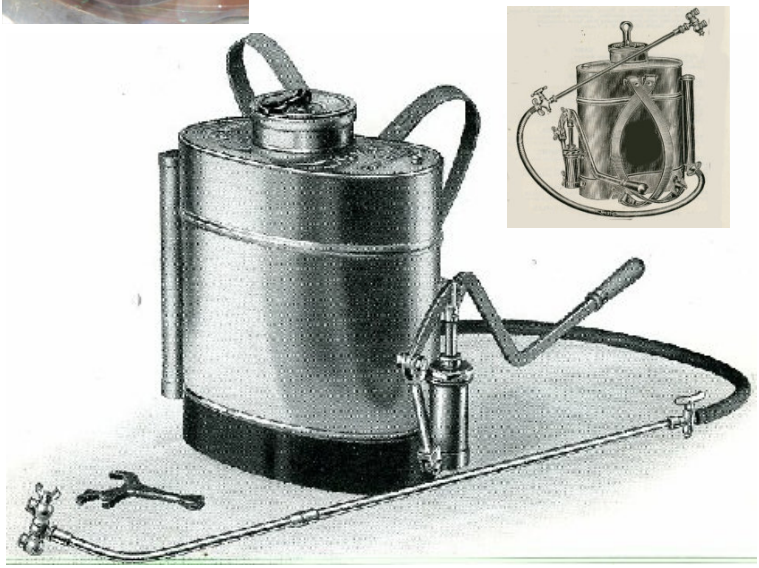
Also known as Rucksack sprayers. Knapsack sprayers are mentioned in newspaper advertisements in 1918. Models mentioned in the 1918,1938, 1948 and 1949 catalogues are No. 1, 3, 4 and 5. There are two basic models. One with a diaphragm pump and one with an external pump. Models 1 and 3 had a diaphragm pump, with model 1 having a copper container and model 3 a tinned copper container for corrosive liquids. Models 4 and 5 had an external pump and a pressure chamber, with model 4 having a copper container and model 5 with a tinned copper container. The 1948 catalogue also lists knapsack spraying outfit 41. This is included with the LADYWOOD sprayer on which it is based. The No. 1 sprayer continues to be listed in the 1956 catalogue. The sprayer looks the same as in 1948, but the lance in the 1956 version has a lever control rather than the tap of the earlier versions. By 1956 the models 4 and 5 were replaced by the No. 11. This was a new design with an external pump and agitator.

W T French

Above :- [258] {3} Mysto No 1 Knapsack Sprayer. Diaphragm pump. Capacity 3¼ gallons. Weight 15½ pounds. Tap on the lance rather than the lever control of later versions. Leather shoulder straps. Hose on this example is a replacement. Double nozzle.

Left :- The inlet and outlet valves. Top is the outlet valve. This connects via a pipe with the hose connection. Bottom is the inlet valve connecting directly into the tank.

Left :- Underside of Mysto knapsack sprayer. Showing the diaphragm mechanism.



Above :- Mysto No. 4 knapsack sprayer as illustrated in the 1948 catalogue with the 1918 version inset. Mentioned in the Gloucestershire Chronicle 14 Sept 1918. External pump (right) and pressure chamber (left). As far as it is possible to ascertain from the illustration this is a straightforward implementation of this type of sprayer, similar to the ABOL knapsack sprayer covered in Chapter 4. The Mysto No. 5 sprayer is identical apart from the fact that the interior is tinned for use with chemicals which would corrode brass. Around 1918 it was advertised in THE JOURNAL OF THE BOARD OF AGRICULTURE as being used by the Rt. Hon. Lloyd George on his allotment at Walton Heath.

W T French

Left :- Mysto No. 11 knapsack sprayer as illustrated in the 1956 catalogue. External pump and pressure chamber both on right. Agitator.

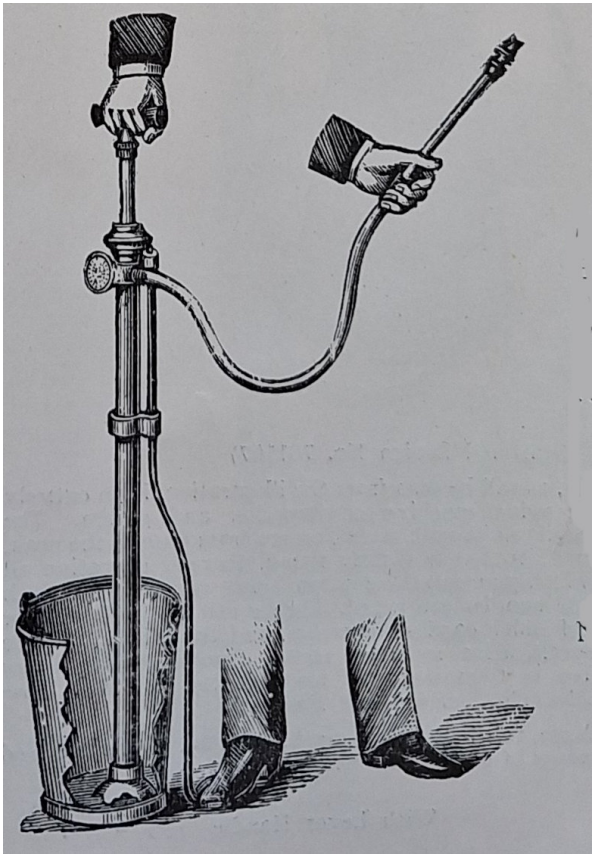
STIRRUP PUMPS, ENEMA PUMPS and GARDEN ENGINES

Garden Engines appear in the 1918 and 1938 catalogue. The models included in the 1918 catalogue were probably the same or very similar to those being made in 1896. After 1918 the term ‘garden engine’ rapidly declines in use because the term ‘engine’ began to be associated with steam and petrol engines rather than with human powered machines. The 1938 catalogue lists 9 pumps with stirrups, excluding any veterinary pumps. The 1948 catalogue shows 5 pumps with stirrups. These include two designed for general spraying, one specifically designed for spraying disinfectants and two designed for veterinary use.

W T French

GARDEN ENGINES

In 1896/7 W T French is specifically mentioned as the maker of garden engines. There are several models in the 1918 catalogue, and these were probably very similar to those being made in 1896. After 1918 the term ‘garden engine’ rapidly declines in use and is replaced by the term spraying pump or spraying machine. This was because the term ‘engine’ was increasingly being used in the context of steam or petrol powered machines. The 1918 catalogue lists models 12,13,14,18,19, 23, 24, 25, 29, 30, 37 as garden engines. Models 12, 13 and 14 are also in the 1938 catalogue but as pumps and not garden engines.



Left :- In 1918 as IMPROVED CHAMPION GARDEN ENGINE. In 1938 as IMPROVED CHAMPION PUMP. The same drawing is used in both catalogues.

Three different models.

No. 12 - 1 inch by 20 inch.

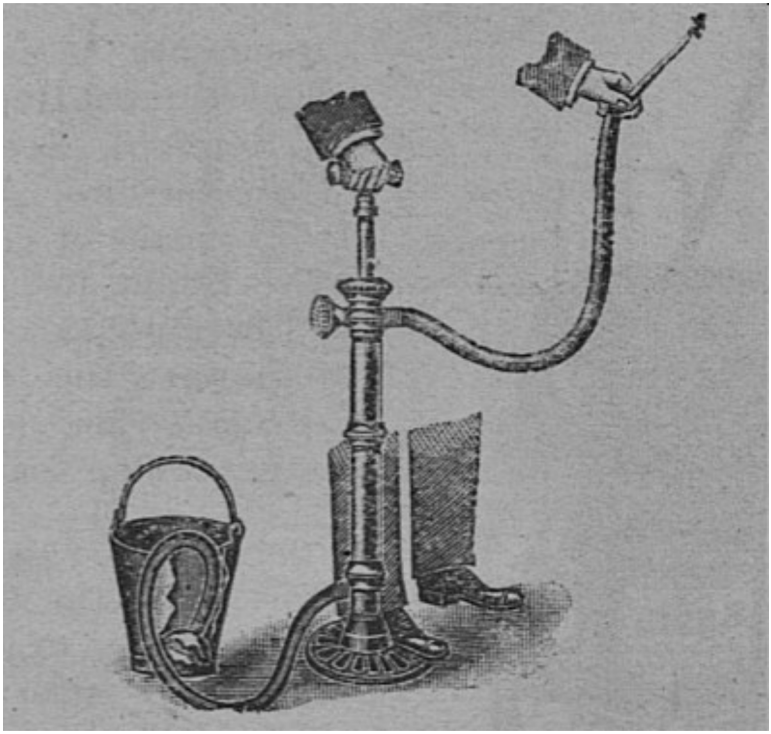
No. 13 - 1¼ by 20 inch.

No. 14 - 1½ by 20 inch.

A double action pump. Described as being able to throw a jet of water at least 40 ft.

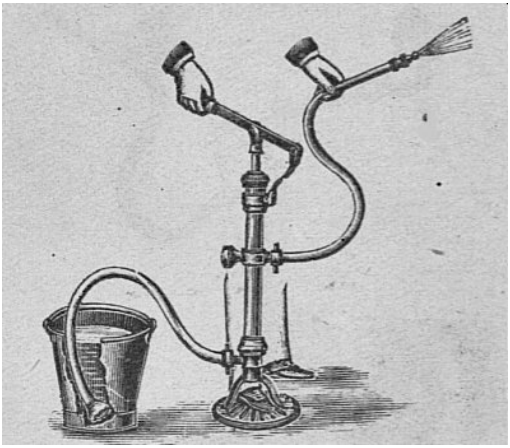
In the 1918 and 1938 catalogues but not later.

W T French



Above :- CHAMPION GARDEN AND SPRAYING ENGINE model 18, 19, 23, 24 and 25. Provided with 3 ft of ½ inch delivery hose, branch pipe, rose and jet, and 3 ft of strong suction hose with strainer. Model 18 with 1 inch barrel; model 19 with a 1¼ inch barrel; model 23 with a 1½ inch barrel; model 24 with a 2 inch barrel; model 25 with a 2¼ inch barrel. For limewashing and for washing cars. Double action throwing a continuous stream 10 feet. In the 1918 catalogue.

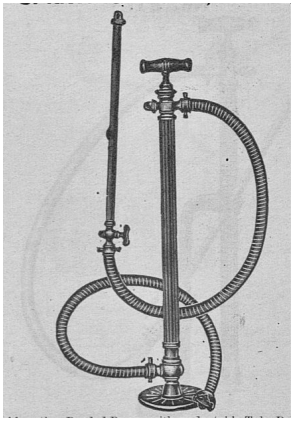
W T French



Left :- IMPROVED LEVER GARDEN ENGINE model 37. In the 1918 catalogue. Lever action with a 2 inch pump and an air chamber. It would draw water through a suction hose up to 60 ft in length. Output for any length. Provided with 3 ft of ½ inch delivery hose, branch pipe, rose and jet, and 3 ft of ¾ inch suction hose with strainer.

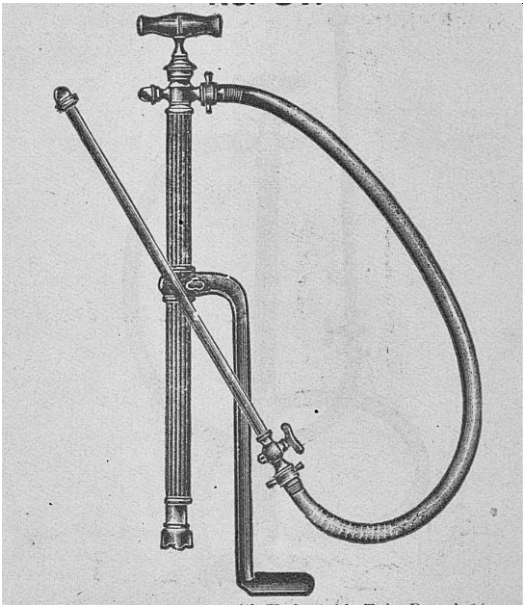
STIRRUP PUMPS and ENEMA PUMPS

The 1938 catalogue lists 9 pumps with stirrups, excluding any veterinary pumps. The 1948 catalogue shows 5 pumps with stirrups. These include two designed for general spraying, one specifically designed for spraying disinfectants and two designed for veterinary use. The two veterinary enema pumps were nickel-plated. The nozzles are an indication of intended use and as these are frequently missing from actual examples the purpose of these sprayers may not always immediately obvious. The 1949 catalogue has just one veterinary pump. Later catalogues do not cover the veterinary products, but some probably continued to be made.

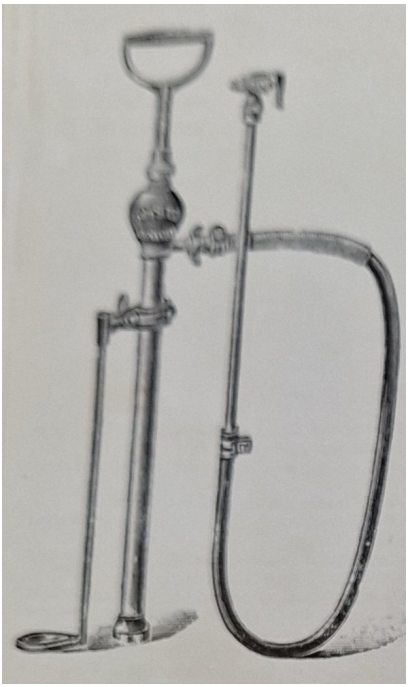


Left :- CHAMPION UNDENTABLE SPRAYING PUMP model 28. In the 1918 catalogue. Double action pump in an undentable tube. 6 ft of armoured delivery hose. Polished brass spraying arm with tap. Limewashing and spraying nozzle. Malleable iron foot. The inlet hose has a strainer.

W T French



Left :- CHAMPION UNDENTABLE PUMP model 31. In the 1918 catalogue. Double action pump in an undentable tube. 6 ft of armoured delivery hose. Polished brass spraying arm with tap. Limewashing and spraying nozzle. Malleable iron foot Inlet hose has a strainer.

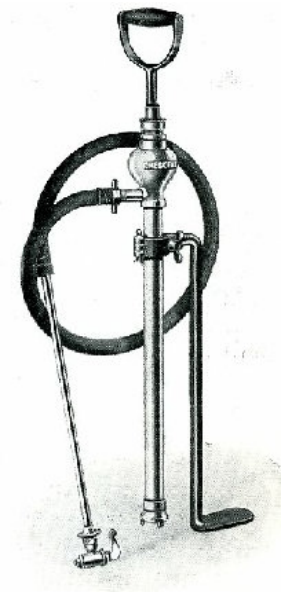


Left :- Mysto No. 32 - MYSTO JUNIOR spray pump. Double action with a bulbous air chamber above the hose connection. Pump is of brass with an adjustable wrought iron stirrup. Provided with 42 inches of ⅜ inch bore hose. Net weight 5½ lbs.

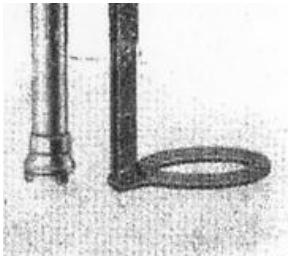
This sprayer features in the 1938 catalogue, but not after this

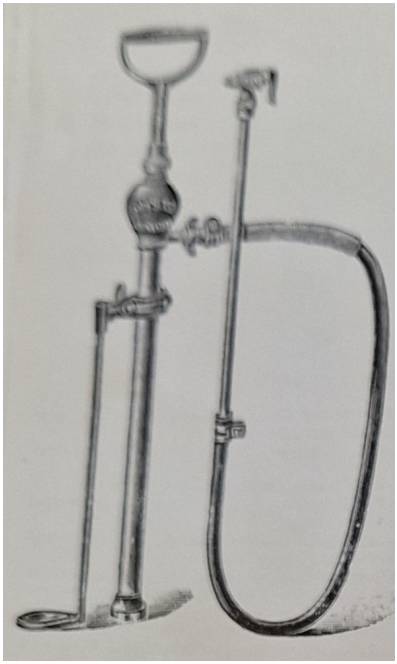
W T French

W T French



Above/Left :- [957] Mysto No. 33 CRESCENT spray pump. Advertised as being the 'Heavy Popular' model. Brass sprayer with bulbous air chamber at the top of the barrel. Iron stirrup. In the 1918 catalogue as a special export model for vine growers and tea plantations. Also, for use by poultry keepers and for limewashing. In advertising it is shown fitted with a brass lance and Bordeaux mixture nozzle. It appears in 1951 advertising the 1956 catalogue but with design changes. The most obvious of which is the different shaped stirrup (see below), but the sprayer may have been had other modifications as the weight has changed form 7½ lb to 8 lb.

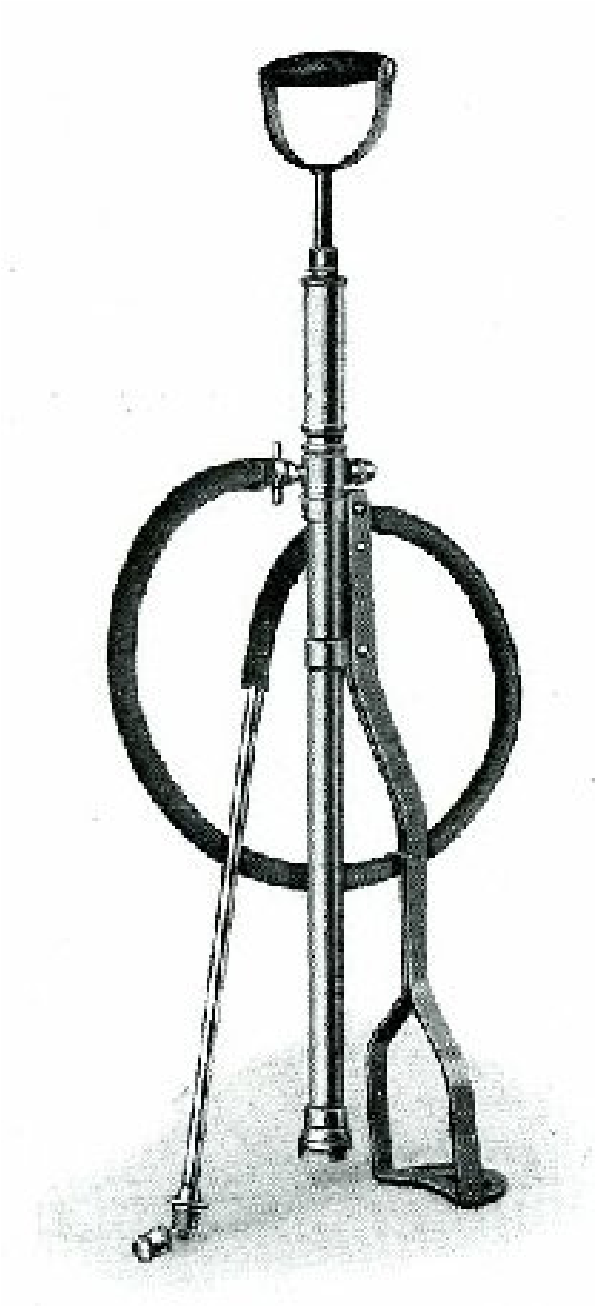




Left :- Mysto No. 34 - MYSTO SUCESS spray pump. Double action with a bulbous air chamber above the hose connection. Pump is of brass with an adjustable wrought iron stirrup. Provided with 42 inches of ⅜ inch bore hose. Net weight 7 lbs.

This sprayer features in the 1938 catalogue, but not after this

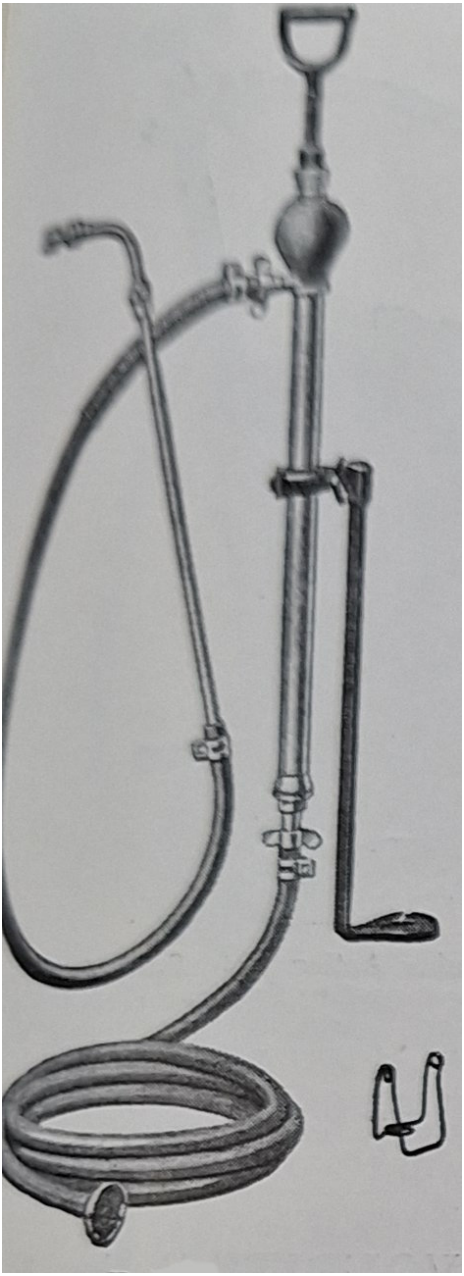
W T French



Left :- Mysto No. 35 spray pump. Intended as an agricultural sprayer with alternative use for window washing etc. Double action with a cylindrical air chamber at the top of the piston rod. Pump is of brass with an adjustable wrought iron stirrup. Provided with 42 inches of ⅜ inch bore hose and a 15 inch delivery lance. Angle bend. Fine and coarse spray nozzles. Also, a jet nozzle. Net weight 5½ lbs.

This sprayer does not feature in the 1956 or subsequent catalogues.

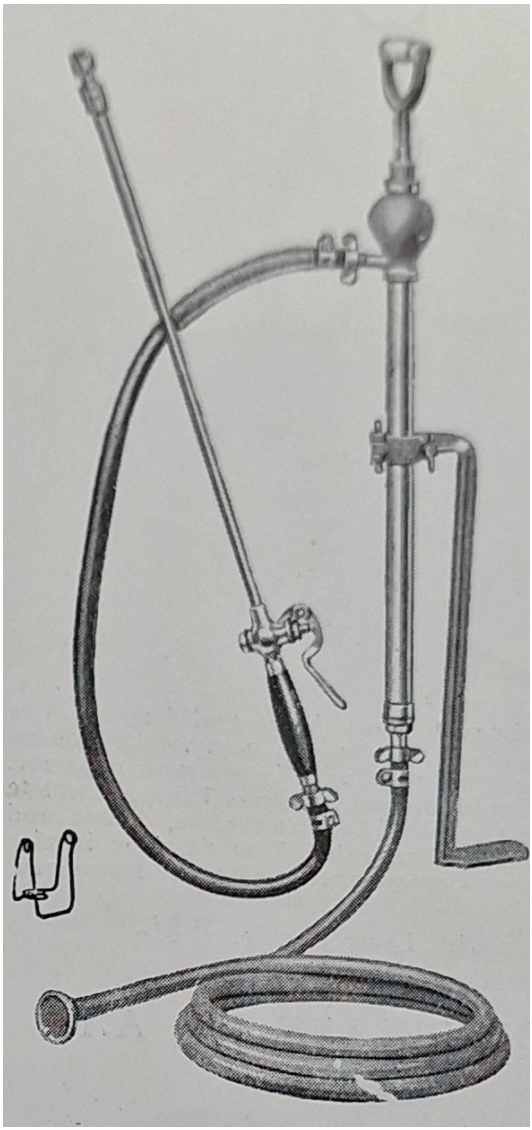
W T French



Left :- Mysto No.71 JUNIOR suction pump. Based on the JUNIOR spray pump but with the feed from a 10ft suction hose with a strainer. Supplied with a bucket clip. Brass lance with swivel angle bend, Uncloggable limewashing and spraying nozzle.

Features in the 1938 catalogue but not later.

W T French

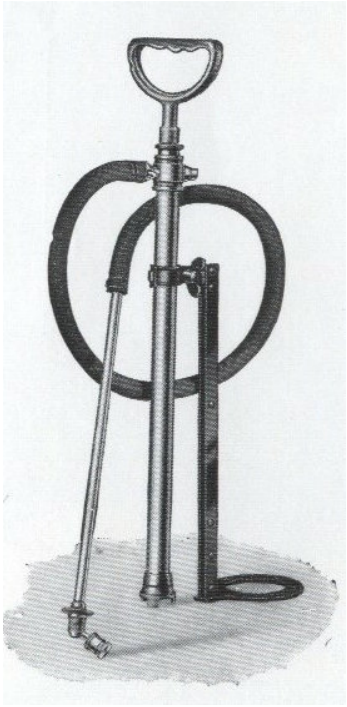


Left :- Mysto No. 91 SUCTION PUMP. Based on the No. 33 CRESCENT spray pump but with the feed from a 10ft suction hose with a strainer. Supplied with a bucket clip. Auto release brass lance. Uncloggable limewashing and spraying nozzle. Described as a reliable pump for general work.

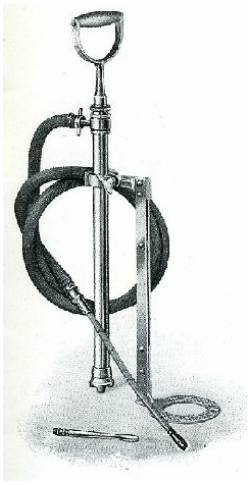
Optionally, supplied with a tap instead of the auto release.

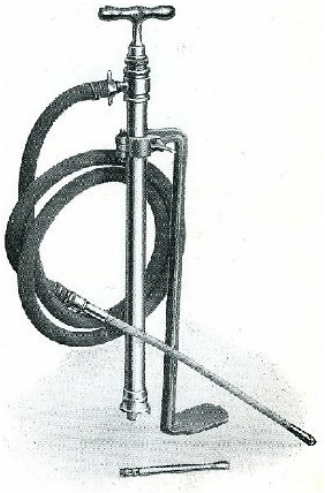
Features in the 1938 catalogue but not later.

W T French



Left :- Model 135 - MYSTO SPRAY PUMP. First appears in the 1938 catalogue. Advertised specifically for limewashing and supplied with a uncloggable limewash nozzle and a jet nozzle. Adjustable iron stirrup. Suitable for general spraying. Weight 5½ lbs. Fitted with 15 inch lance, 42 inches of ⅜ bore hose. Does not appear to have an air chamber but most probably had a hollow piston rod acting as an air chamber. For comparison see the two veterinary below. Both are nickel-plated.



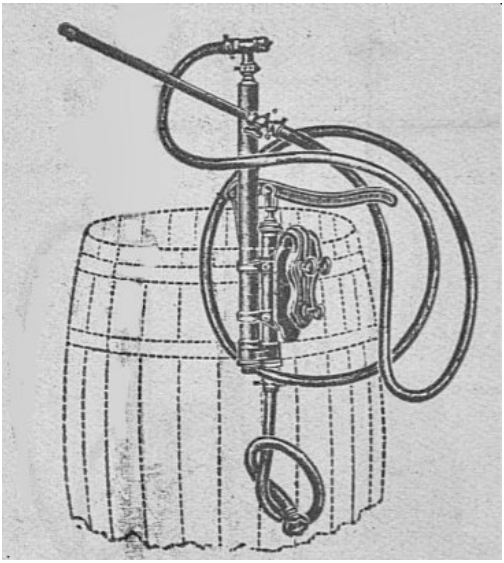


W T French

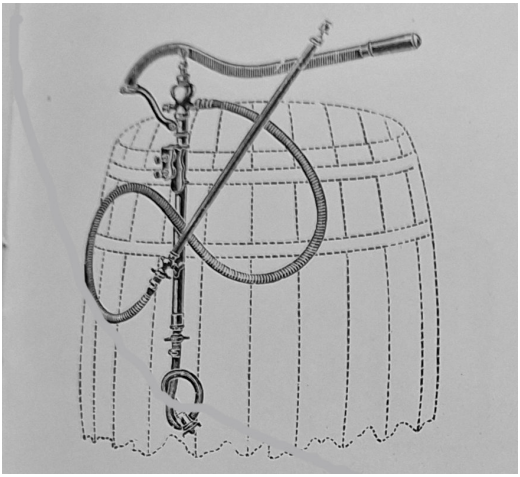
Above :- [254] {3} Mackensie Spray Pump. Specifically designed to be portable (carried on a bicycle) and as a disinfecting sprayer. in the 1918 catalogue but colour unknown. A 1935 version of similar folding sprayer is known but not painted red. This version appears only in the 1938 and 1948 catalogues but it may have been available after this. Mackenzie refers to Dr Leslie Mackenzie (1862 to 1935), medical officer to the Local Government Board for Scotland who advocated the use of disinfectant spraying in schools and hospitals. Disinfectant recommended include carbolic acid and in hospitals formaldehyde. Books dating 1895 to 1920s specifically mentioned diphtheria, scarlet fever, measles, whooping cough and TB. The recommendation in 1895 was that schools were sprayed twice a year.

W T French

BARREL PUMPS



Left :- No. 25 - CHAMPION JUNIOR barrel pump. Double action lever brass pump. Air chamber. Supplied with 6ft of delivery hose and 3ft of suction hose. Brass lance with tap. Limewashing and spraying nozzle. In the 1918 and 1938 catalogues but not later.



Left :- No. 26 - CHAMPION BARREL or WELL PUMP. Barrel diameter 1½ inches.

Two way swivel outlet. inch. Double action Lever brass pump. Air chamber. Supplied with 12ft of delivery hose and 3ft of suction hose. Polished brass lance with tap. Limewashing and spraying nozzle.

Model No. 27 is of the same design but with a 2 inch diameter barrel. In the 1938 catalogue but not later.

W T French

Bucket and Containers Sprayers

These are pumps built into containers. The containers can be buckets, or cylindrical or rectangular containers. Some containers were made of oak with galvanised iron bands. This allowed the use of caustic chemicals. Otherwise, containers were made of galvanised iron. Oak containers appear to have been discontinued by 1938 in favour of lead-lined galvanised iron.

Some have wheels. Early catalogues show just iron wheels but by 1948 some sprayers could be provided with either iron wheels or rubber wheels. In some cases a solid rubber wheel was available and in other instances a pneumatic tyre could be provided.

Two types of pump are used in these sprayers. Firstly, those based on the common pump and secondly, those based on the force pump. Those based on the common pump have a piston rod coming out from the top of the pump barrel. This is directly connected to the handle or there is a lever mechanism. There is a horizontal hose connection coming out from near the top of the barrel. On some there is a bulbous air chamber above this connection. It is assumed that they have hollow piston rods which act as an air chamber but this needs confirmation by examining actual examples.

The pumps based on the force pump have a lever mechanism connecting the piston rod to a force pump which is located within the container. The pump is usually connected to a vertical outlet which consists of an air chamber surrounding the outlet pipe. The top of the output pipe is connected to the output hose. An exception to this is the DEVONIAN which appears to use a force pump with an outlet in the side of the container.

The pumps based on the common pump are more compact that those based on the force pump and are more suitable for the smaller containers. The force pump type take up more room, but are more powerful.

Sprayers suitable for limewashing usually came with a brass strainer. As well as a normal spray nozzle, special non-clog limewashing nozzles were often provided.

W T French

Left :- The SWIFT bucket pump. Capacity 4 gallons. Smaller version of the BAILIFF, with a handle rather than the lever mechanism. Air chamber. Strainer. Does not have an armoured hose.

In the 1938, 1946, 1948 and 1949 catalogues, but not mentioned in 1956.

Below :- The SAMPSON bucket pump. Capacity 4 gallons. Smaller version of the BAILIFF. Differs from the SWIFT *in having the lever mechanism of the BAILIFF and also the armoured hose. In the 1918, 1938, 1946, 1948 and 1949 catalogues, but not mentioned in 1956.*

W T French

Left :- [862] {3} Example of a SAMPSON bucket sprayer. Bucket 13 inches high and 12 inches in diameter. Barrel length 20 inches with a diameter of 1¼ inches. Bulbous air chamber at top of barrel. Hollow brass piston rod ¾ inch in diameter and 16 inches in length. Piston is back-to-back leather cup washers. Piston rod controlled by a ball. Foot valve with brass ball and filter. Remains of reinforced rubber hose. Stuffing box. Originally with a lever type handle which is now missing. Lance 24 inches long and $^{7}/_{16}$ inches in diameter. Lance has a tap. Limewashing nozzle and a spray nozzle. Holder for nozzle not in use.

Below :- The nozzles.

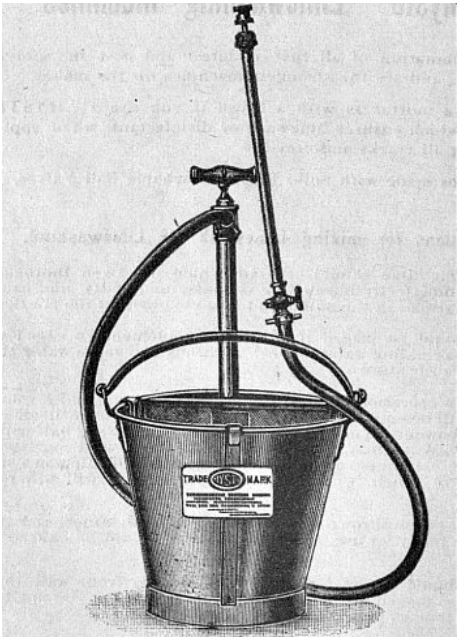
Left :- The piston assembly showing the remains of the cup washers.

Right :- The tap showing the remains of the hose.

Left :- This sprayer came with the strainer shown left. However, this doesn't fit very well and may not be the original.

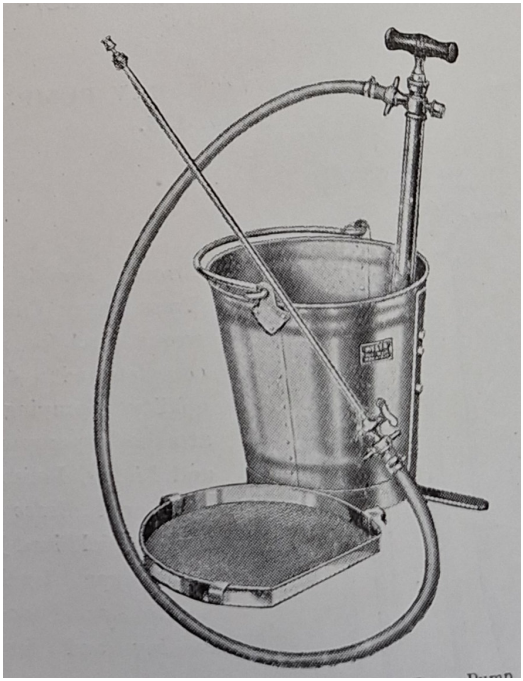
W T French

Left :- The MOBILE model No. 00. Appears in the 1938 catalogue. Based on the No. 35 spray pump. A galvanised iron container with a capacity of 4 gallons. Lance with stop-cock and 7ft of hose. Uncloggable limewashing nozzle and spraying nozzle, Included a separate perforated zinc strainer.

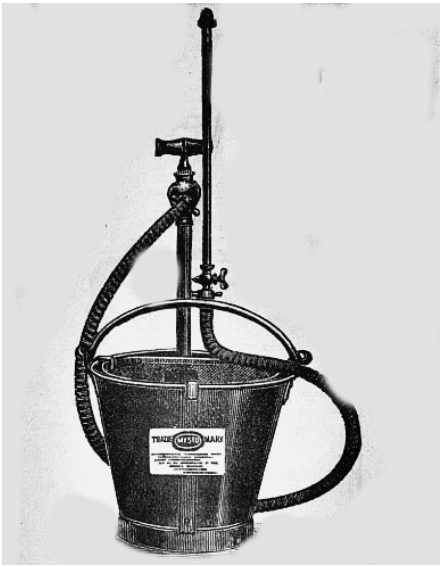


Left :- The FAVOURITE model 1 from the 1918 catalogue. A galvanised iron container with a capacity of 4 gallons. Lance with stop-cock and 6ft of hose. Uncloggable limewashing nozzle and spraying nozzle, Included an all brass strainer, fitting into the bucket.

W T French



Left :- The FAVOURITE model 1.as it appears in the 1938 catalogue. A galvanised iron container with a capacity of 4 gallons. Lance with stop-cock and 6ft of hose. Uncloggable limewashing nozzle and spraying nozzle, Included an all brass strainer, fitting into the bucket.



Left :- The ADMIRAL model 2. In the 1918 catalogue. Described as being similar to the FAVOURITE but with a stronger pump with an air chamber. It also came with an armoured hose. Capacity 4 gallons. Perforated brass strainer which fitted into the bucket. Came with a limewashing and spraying nozzle.

W T French

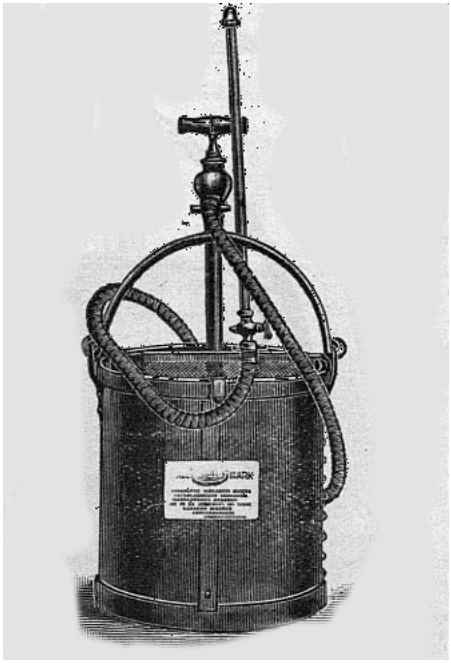
Left :- The UTILITY model 0. Appears in the 1946 advertising and in the 1938, 1948, 1949 and 1951 catalogues. A galvanised iron container with a capacity of 4 gallons. Lance with stop-cock and 6ft of ⅜ bore hose. Uncloggable limewashing nozzle and spraying nozzle, Included a separate strainer.

Right :- The UTILITY model 0 with a different bucket and handle. This version from around 1950. In the 1956 catalogue this model has become the POPULAR LIMEWASHING MACHINE. There may be some internal differences in the pump.

W T French

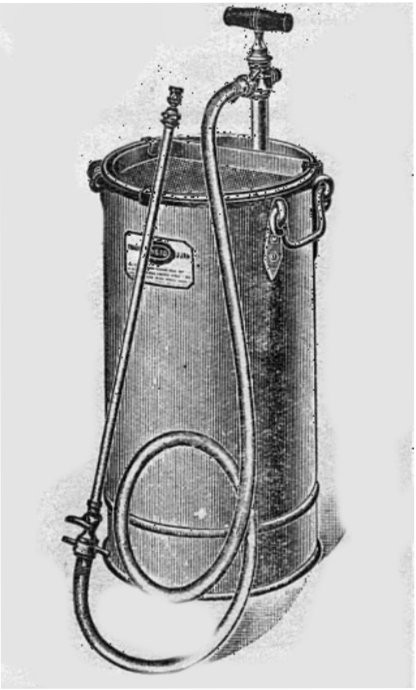
Left : - The COVENTRY model 3. Bucket pump. In the 1918 catalogue.

Capacity 6 gallons. Double action brass pump. Armoured hose was an optional extra. Limewashing and spraying nozzle. Fitted all brass strainer. Appears to be the same pump as the FAVOURITE model 1 but with a larger capacity container.



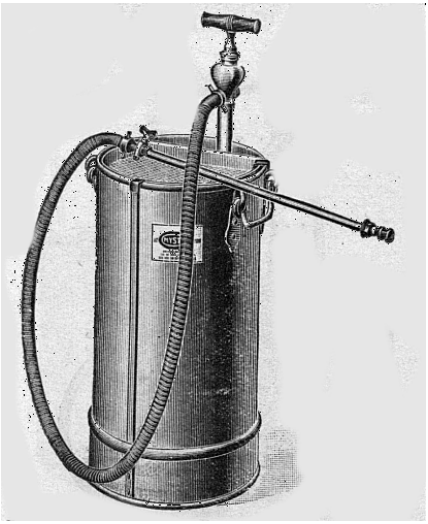
Left :- The NELSON model 4 bucket pump. In the 1918 catalogue. Capacity 6 gallons. Double action brass pump with air chamber. Armoured hose. Limewashing and spraying nozzle. Fitted all brass strainer.

W T French



Left : - The BUXTON. In the 1918 catalogue.

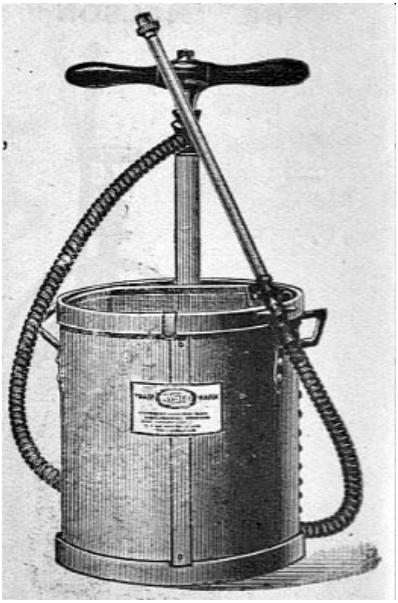
Capacity 6 gallons. Double action brass pump. Supplied with 6 ft of hose. Armoured hose was an optional extra. Limewashing and spraying nozzle. Fitted all brass strainer.



Left : - The BAKEWELL. In the 1918 catalogue.

Capacity 6 gallons. Double action brass pump with air chamber. Supplied with 6 ft of armoured hose. Limewashing and spraying nozzle. Fitted all brass strainer.

W T French



Left :- The WELLINGTON No. 5. In the 1918 catalogue. Extra strong pump in a undentable tube. Said to be most useful when spraying high walls or roofs. Pump designed for one hand operation. Supplied with 6 ft of high pressure armoured hose. Also available at a slightly cheaper price with a standard hose. Polished brass spray lance with limewashing and spray nozzle. Brass fitted strainer.

Below :- [257] {3} The BAILIFF bucket pump. Capacity 6 gallons. Galvanised iron container 14 inches in diameter and 14 inches high. Originally it would have been provided with a strainer. In the 1918, 1946, 1948, 1949,1951 and 1956 catalogue. Provided with a lance with a tap. Limewashing and spraying nozzles.

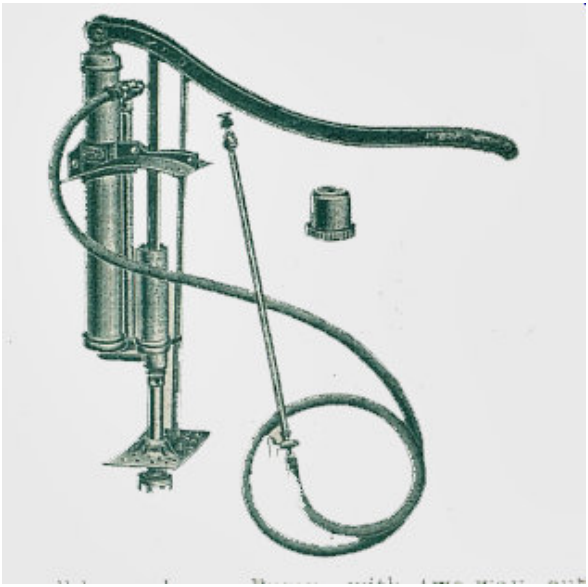
The 1918 illustration does not show the stabiliser.

W T French

Left :- The EDGBASTONIAN. In the 1918 catalogue. 20 gallon oak container on a wheelbarrow frame with two 16 inch iron side wheels. 10 ft of hose. Lever action pump with agitator. Polished brass spraying arm with stopcock. Limewashing and spraying nozzle. All brass strainer. Agitator. Said to be very stable.

Left :- The CAMBRIDGE. In the 1918 catalogue. 10 gallon oak container with galvanized bands. Pump with lever actor. Polished brass spraying arm with stopcock. Limewashing and spraying nozzle. All brass strainer. 12 ft of hose. Recommended for fruit growers.

W T French



Left :- The PERSHORE without cask. In the 1918 catalogue. Powerful all brass lever pump with two way outlet. Air chamber. Agitator. Fitted with 12 ft of hose. Brass spraying arm with limewashing and spraying nozzle.

Below :- The PERSHORE fitted to cask. In the 1918 catalogue. Powerful all brass lever pump with two way outlet. Air chamber. Agitator. Fitted with 12 ft of hose. Brass spraying arm with limewashing and spraying nozzle.

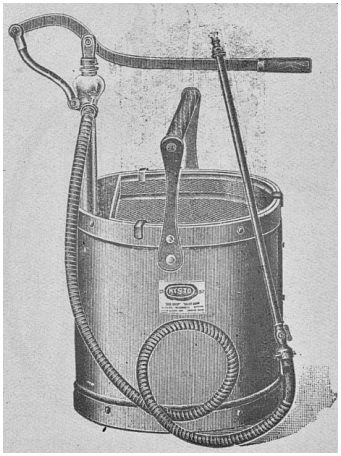
W T French

Above :- [637] {3} The NON-SPLASH model A.1. The Above galvanised iron container has tapered sides. Container height 16 inches and diameter at top 8 inches. The brass barrel length is 18 inches with a diameter of 1 inch. The piston rod is hollow and has a cylindrical air chamber at the top. Marks on the container suggest it may have had a lever handle. The piston is of the cotton reel type with the piston valve using a ½ ball. The foot valve is also controlled by a ½ ball. Known from a 1936, 1938 and 1949 catalogues and also later. Came with a zinc gauze strainer. In 1936 it was supplied with either a lever handle (39/-) or a 'D' shaped handle (35/-)

Left :- Piston valve. Right :- The foot valve

W T French

Above :- The COUNTY. First known from Catalogue 56 (1918) at a price of 97/6. In the 1949 catalogue, but not later. Brass pump with bulbous air chamber at the top of the barrel. Oval galvanised container with a 6 gallon capacity. Strainer. Provided with a limewashing and spraying nozzle. The above example is missing the hose and lance. There would have been 6ft of armoured hose and a lance with a stop-cock. A limewashing and a spraying nozzle would have been provided,



Left :- The 1918 and 1938 version of County. Note that the absence of the stabiliser in the drawing.

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W T French

Above :- [438] {4} Similar to the NURSERYMAN but with a lid. Made to government specifications. Use unknown, but it has been suggested that it might have been used for cleaning or de-icing aircraft. Possibly dated 1942.

Left :- [438] The restored version of the above sprayer. The sprayer was mounted on a wooden base which had disintegrated. Diameter 12 inches. Container height 20 inches. Lever action pump with pressure vessel at top of barrel. Hollow piston rod. Valves controlled by brass balls. Wheel diameter 9 inches. Barrel diameter 1 inch, length 18 inches. Brass piston rod ⅞ inch in diameter. It has a indented section which looks original and deliberate (see below) . Leather cup washer piston {probably originally back-to-back.).

W T French

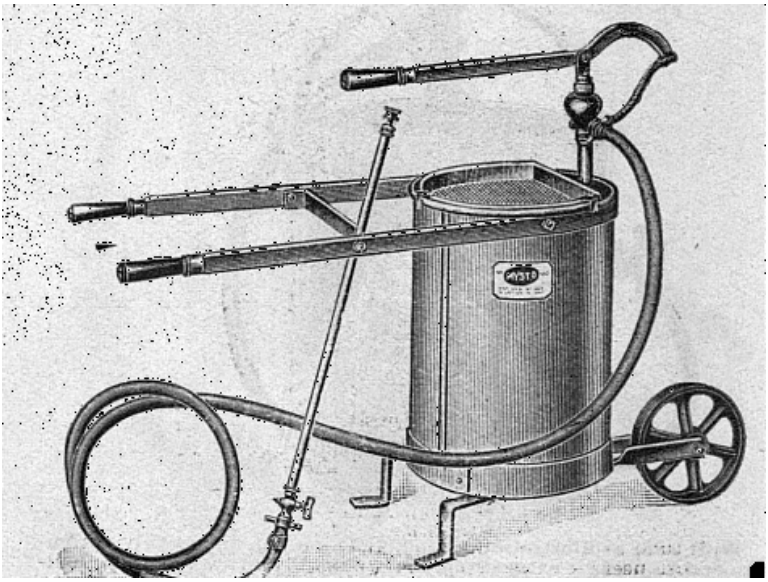
Left :- The WINCHESTER. The 1948/1951 version. Capacity 10 gallons. Container height approximately 20 inches and diameter 14 inches.

In 1948 and 1949 available with an iron wheel or with a solid rubber tyre. In 1951 and 1956 available with just the rubber tyre. Strainer and 10ft of hose with a lance. Limewashing and spraying nozzle provided.

Uses a pump based on the common pump. It has a bulbous air pressure chamber. Lever action. Probably the same pump as used in the NURSERYMAN.

Left :- The WINCHESTER as available in the 1938 catalogue. Differs from the 1948 version in the handles and the front legs. Available with an iron wheel only.

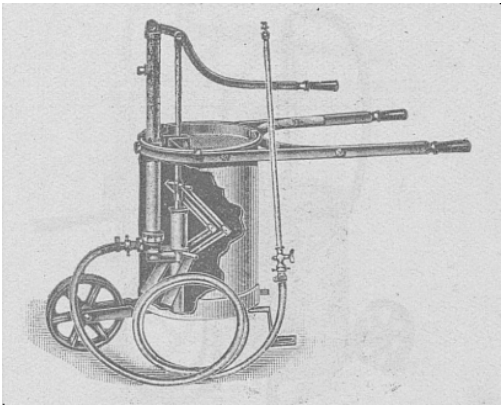
W T French



Above :- The WINCHESTER from the 1918 catalogue with iron wheel. Handle and legs differ from the 1938 and 1948 models.

Left :- The NURSERYMAN. Capacity 6 gallons. Galvanised container. Brass strainer. Hose 10ft in length with ½ bore. Iron wheel with diameter 9 inches. Limewashing and spraying nozzle. In the 1948 and 1949 catalogues.

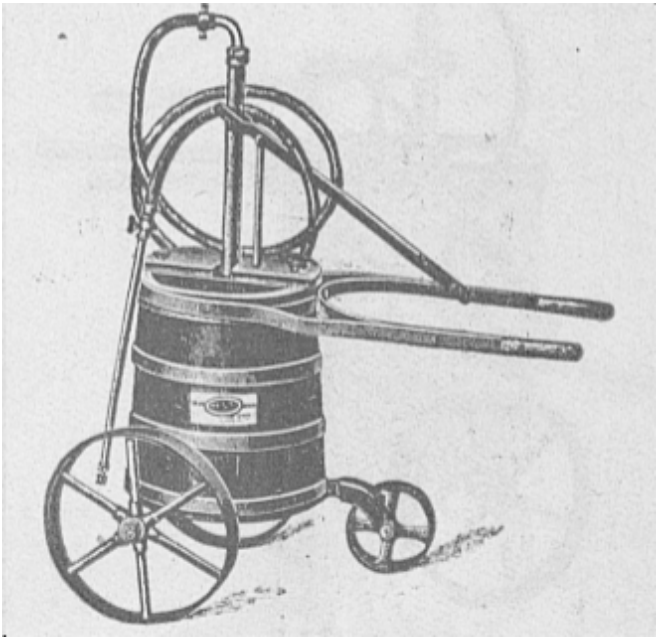
W T French



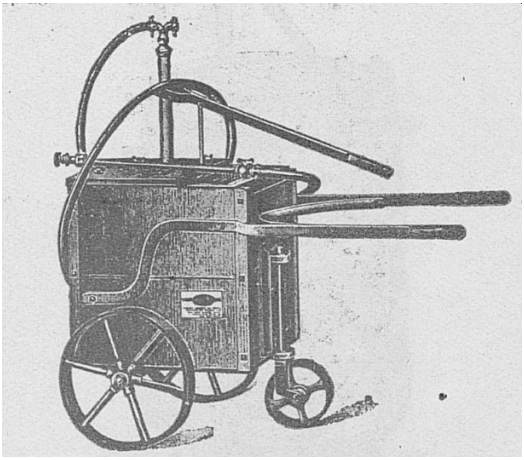
Left :- The DEVONIAN. Force pump. Designed specifically for fruit tree spraying. Provided with 10 ft of hose. Limewashing and spraying nozzle. 10 gallon container. Strainer.

In the 1918 catalogue. Registered design 674147 and 674148. This is unusual in that the pump outlet is in the side of the container.

Below :- The WOODROW. In the 1918 catalogue.
Force pump mounted on an oak barrel. The 10 gallon oak barrel allowed the use of caustic fruit tree washes. Provided with 12 ft of top quality hose. Agitator and brass strainer. Spraying lance with limewashing and spraying nozzle.

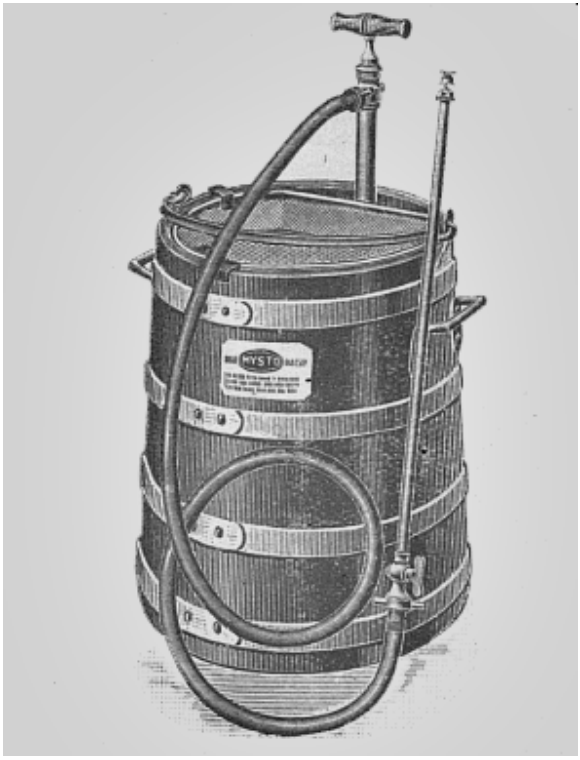


W T French



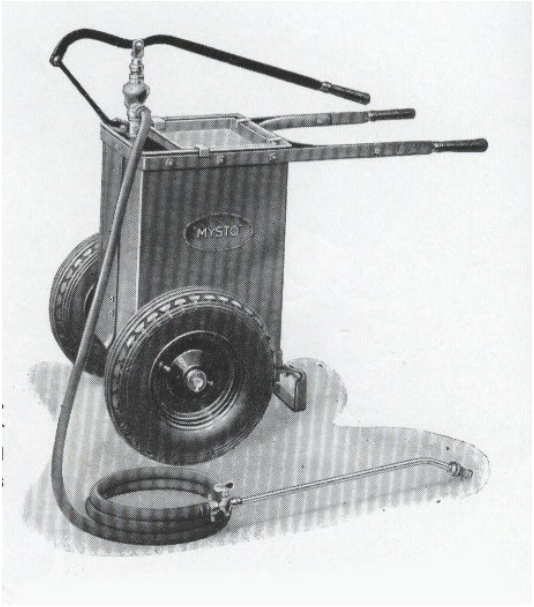
Left :- The AGRICULTURALIST. In the 1918 catalogue. Force pump with 2 inch barrel. Available in 18 gallon and 30 gallon version. Double swivel outlet. Designed specifically for fruit tree spraying. Provided with 12 ft of hose. Limewashing and spraying nozzle. All brass strainer.

16 inch iron side wheels and an 8 inch front wheel with swivel action.



Left :- The CANTERBURY. In the 1918 catalogue. 6 gallon oak container allowing the use of caustic fruit tree washes. Provided with 6 ft of top quality hose. Spraying lance with limewashing and spraying nozzle. All brass strainer. The 1918 catalogue indicates that this has an air chamber but the illustration does not support this.

W T French



Left :- The HEREFORD. Capacity 15 gallons.

In the 1951 and 1956 catalogue. It appears to be a redesign of the Winchester using two wheels with pneumatic tyres.

Left :- The DENBEIGH. This model appears to use the same 10 gallon container as the WINCHESTER, but using a force pump instead of the common pump. The pump incorporates an air chamber and is fitted with an agitator. The model appears in the 1918, 1938 1948 and 1949 catalogues but not in the 1956 catalogue.

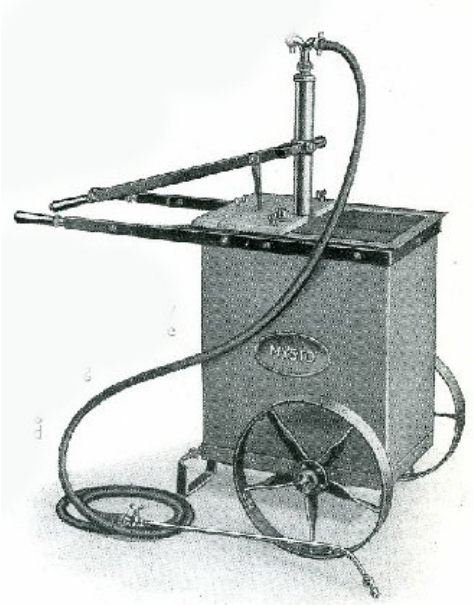
The inset shows the 1918/1938 version.

W T French

Left :- The DENBEIGH-DE-LUX 1948 version. Capacity 15 gallons. In the 1949 catalogue available with pneumatic wheels. This is the DENBEIGH pump mounted in a larger container. It has 16 inch iron wheels with wide faces. It was provided with 10ft of ½ inch bore hose, a spraying lance and both a limewashing and spraying nozzle.

Inset shows the 1938 version. Then called the DENBEIGH STANDS FIRM.

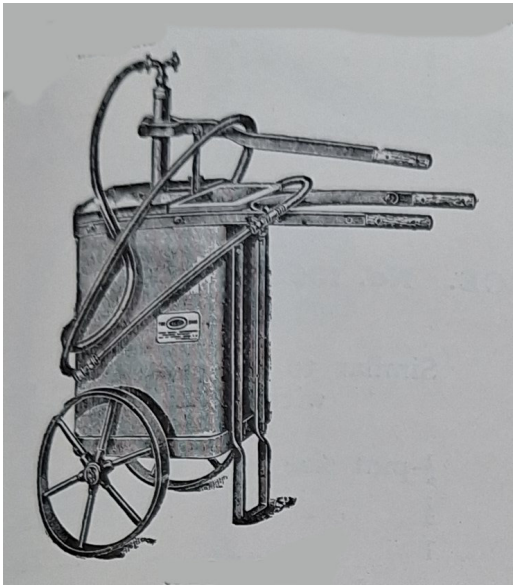
Not in the 1956 catalogue.



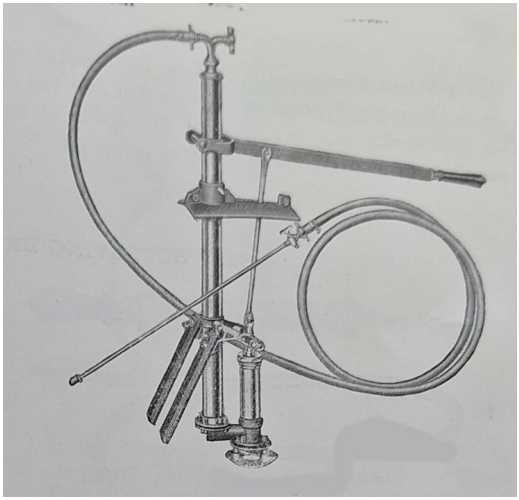
Left :- The SHREWSBURY 1948 version. This model appears to use a force pump, but probably of a larger capacity than that used in the DENBEIGH. Fitted with a double hose connection and provided with 12 feet of ½ inch hose. Spraying lance provided with both with limewashing and spraying nozzles. Agitator.

In the 1948 catalogue available with 16 inch iron wheels or 16 inch by 4 inch pneumatic tyres. In the 1951 and 1956 catalogue it appears to be only available with the pneumatic tyres.

W T French



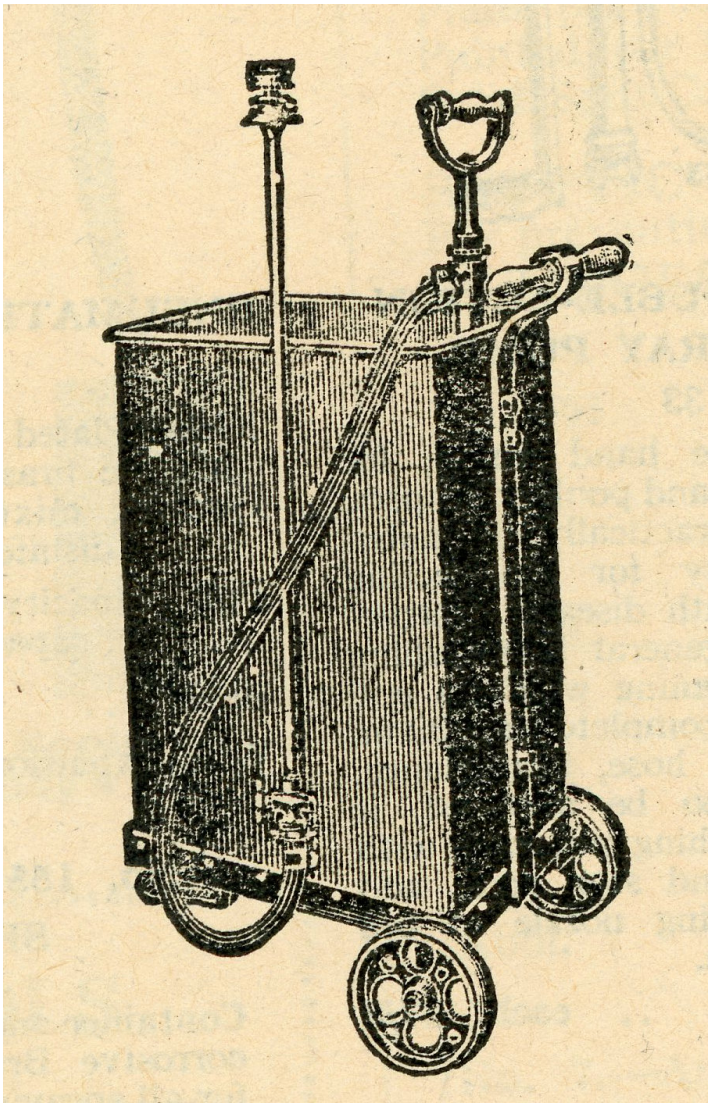
Left :- The SHREWSBURY 1918 and 1938 version. 16 inch wide face iron wheels. Advertised for general agricultural work.



Left :- The SHREWSBURY pump 1938.

Designed to be fitted into the users own container.

W T French



Above :- The MARVEL. Known from the Army and Navy Stores Ltd Catalogue 1937/1938. Limewashing and Spraying machine. A double action brass pump with 39 inches of high quality spraying hose. Polished brass spraying arm with stop-cock. One limewashing and one straight jet. Complete with 10-gallon galvanised container. Perforated brass strainer. Price £3 6s.

W T French

Above :- The DENBEIGH-SHREWSBURY ACID SPRAYER. Capacity 12 gallons. This sprayer is fitted with a lead coated steel tank lined with a special acid resisting paint. It is fitted with 16 inch wheels. Iron or pneumatic tyres were available. The pump appears to be of the larger type used in the SHREWSBURY. This sprayer was provided with 30 feet of delivery hose, a 42 inch lance and a 3 way nozzle boom with a 2ft span. It was provided with a 7 ft suction hose and 7 ft of special delivery hose for pumping the acid out of a carboy into a tub of water. The assumption is that the delivery hose could be connected to the inlet end of the barrel, where the filter would normally fit. Illustrated in the 1948 catalogue. Sulphuric acid was used in a concentration of about 7% for the killing of weeds in cereal crops. Other acids may have been used for horticultural or cleaning purposes. Available in the 1948 catalogue but not after.

Sprayer Accessories

These include various nozzles, lances and spares such as pressure gauges, hose and hose connections.

W T French

1918 Catalogue

Limewashing & Spraying Machine Accessories

Bamboo Extension Lance.

112	Bamboo Spraying Lance,	4ft. 0ins.,	in one piece	...	15/- each.
113	ditto.	6ft. 6in.	ditto.	...	25/- ,,
114	ditto.	10ft. 6in.	ditto.	...	30/- ,,
115	ditto.	13ft. 0in.	ditto.	...	32/6 ,,
116	ditto.	15ft. 0in.	ditto.	...	37/6 ,,

Mysto Single Swivel Nozzle.

6/- each.

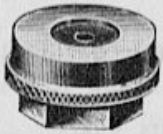
Mysto Double Swivel Nozzle.

9/- each.

Mysto Unclogable Limewashing Nozzle.

4/6 each.

Mysto Disc Nozzle.

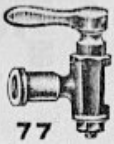


3/- each.

Mysto Spraying Nozzle.

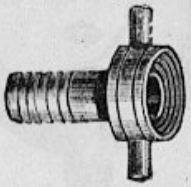
6 each.

Champion Combined Jet and Spraying Nozzle.



3/- each.

½-in. Cap and Lining.



1/6 each.

39

W T French

LIMEWASHING AND SPRAYING MACHINE ACCESSORIES

BAMBOO EXTENSION LANCE

No. 113 6' 6" ... 32/- each
No. 113A 8' 0" ... 35/- ,,
No. 114 10' 6" ... 38/- each
No. 115 13' 0" ... 42/- ,,

¾" CAP AND LINING
1/6 each.

No. 151
PRESSURE GAUGE
8/- each.

No. 68
SINGLE SWIVEL NOZZLE
6/- each.

No. 69
DOUBLE SWIVEL NOZZLE
7/- each.

No. 78
COMBINED JET & BORDEAUX or Crescent Spraying Nozzle
5/- each.

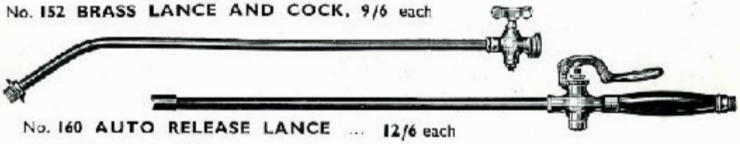
No. 75
SPRAYING NOZZLE
3/6 each.

No. 76
UNCLOGGABLE LIMEWASHING NOZZLE
5/- each.

No. 150
DISC NOZZLE
6/- each.

No. 68K
SINGLE SWIVEL NEEDLE SPRING NOZZLE
6/- each.

No. 152 BRASS LANCE AND COCK, 9/6 each



No. 160 AUTO RELEASE LANCE ... 12/6 each

No. 161 3-NOZZLE BROOMHEAD
Made of Cast Aluminium. The 3 nozzles are adjustable in five positions.
27/6 each

"MYSTO" HIGH-PRESSURE SPRAY GUN

Reeded Brass Lance with Rubber Sleeve. Control and regulation of spray is effected by a turn of wood grip.

No. 162 2ft. Lance ... 45/- each. No. 163 3ft. Lance ... 47/6 each

SPRAYING MACHINE QUALITY HOSE

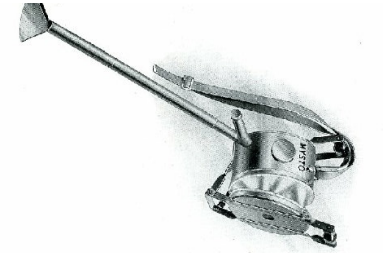
⅜" and ½" and ½" Armoured ... ... Prices on application.

WHEN ORDERING ABOVE—Please specify Model for which spare parts are required

W T French

Powder Blowers

Above :- Powder Blower No. 12. Steel, enamelled green with wooden grips. Designed for dusting small fruit trees, raspberries, brassica crops. Capacity 8 to 12 lbs. Missing from the above example is the nozzle tube, nozzle and the harness. 1948 catalogue.



Left :- No. 13 JUNIOR MYSTO POWDER BLOWER. Used to apply insecticide powder to plants, Could be adapted for use as a bee fumigator.

W T French

Above :- KNAPSACK POWDER DISTRIBUTOR model 6. In the 1918 catalogue. Recommended for spraying ground crops.

W T French

Weeding

The Mysto No. 51 WEED ERADICATOR was designed for applying weed killer directly into the root of the plant. Vinegar was one of the weed killers recommended. The 1956 catalogue also features a manual weeder designed to remove and then pick up the weeds. Around 2014 Hozelock introduced the WONDERWEEDER. This was used to apply weed killer to the leaves of plants. It seems to have been phased out by 2018.

Above :- The drawing is of the Mysto No. 51 WEED ERADICATOR from the 1948 catalogue. The Weed Eradicator may have been based on Patent GB189522403A, accepted 18 Jan 1896 by Charles L Hett. However, the design is different and there may be another patent.

Above :- [906] {4} This device originally seems to have been available as the WIKEHAM WEED ERADICATOR as pictured above. Note that the spring in the picture has deteriorated and is not complete. The barrel is filled with a weed killer, and the brass needle pushed into the centre of the weed. The pressure of it entering the ground is sufficient to compress the spring which allows rubber washer (A) to move away from the housing. A small amount of the weed killer then flows down a groove in the needle and into the centre of the weed. In 1903 it was available from the Boundary Chemical Co Liverpool. In the 1938 catalogue the weed eradicator is sold as the 'Wikeham Pattern'. Possibly it was originally made by W T French for Boundary Chemical Co. Around the late 1890s the Boundary Chemical Company was involved in a number of cases resulting from the use of arsenic in their CLIMAX weed killer. In one case two people died from sugar contaminated by weed killer while in transit on the railway.

W T French

THE

"Wikeham" Weed Eradicator.

(PATENT.)

Destroys Dandelions and Docks in Lawns, &c., without injury to the surrounding grass. The upper part being filled with Weed Killer, it is so arranged, that by merely stabbing the plant, enough liquid is released into the tissues to destroy it. Acknowledged by all who have seen it to be the simplest and most effective instrument ever invented for the purpose.

Price 8/- each (Postage 6d. extra).

Why spend money in useless efforts to dig up such pests as Dandelions, when it is impossible to get the whole of the root away, and it is well known that the smallest portion of such root will spring to life again with renewed vigour if left in the soil.

Solely Prepared by

The Boundary Chemical Company, Limited,

LIVERPOOL.

WONDERWEEDER

Above :- [524] Plastic weed killer applicator. About 38 inches long. Introduced around 2014, but although listed in 2017 did not appear to be generally available and was being sold off at very reduced prices. Instructions were :-

"Fill up with the weed killer of your choice, remembering to follow the chemical supplier's instructions and dosing ratio guidelines. The handy dosing cap located in the base of the handle is graduated from 1ml to 5ml to allow accurate measuring of concentrated weed killing solutions. The transparent grey plastic tube has a 300ml capacity so you can see when you need to refill.

The weed killer is easily dispensed by pushing down on the ergonomic handle at the top of the WONDERWEEDER. Depending on the weed killing solution being used, one application should be sufficient for most weeds, but two is recommended for larger ones.

It offers accurate spraying via the nozzle located within the protective cone. This avoids the accidental spraying of surrounding plants, which can easily happen with traditional sprayers. The 1 metre length enables the treatment of weeds in hard to reach areas.

For Safety the easy-to-twist safety lock mechanism offers peace of mind for when the unit is stored away. "

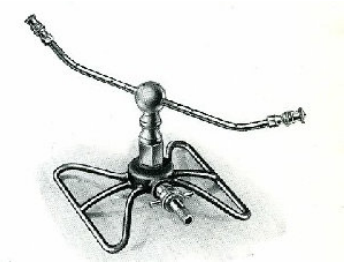
W T French

Hoses, and Watering and Lawn Accessories.

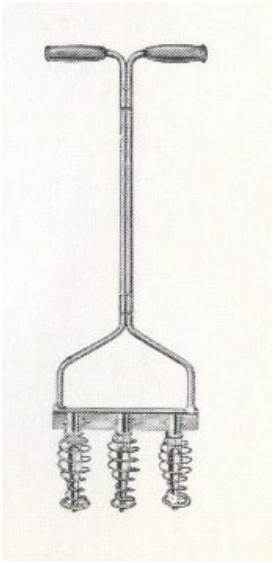
W T French made a variety of hoses and hose accessories, including nozzle, tap fitting, unions, hose reels and sprinklers. Details of these are outside the scope of this publications and are not likely to be confused with sprayers. A few examples are illustrated below.

Left :- Tap connector.

Right :- Hose nozzle.



Left :- Lawn sprinkler



Left :- The WITNEY Lawn aerator. Drawing from the 1956 catalogue.

Below :- Hose reel.

W T French

Bilge Pumps, Sanitary Pumps and Oil Pumps

These are similar to sprayers as they are designed to pump liquid from one point to another.

Left :- [293]. MYSTO brass single action suction pump of robust construction. During operation liquid is sucked in through the inlet (bottom) and pumped out through the pipe. It was originally provided with a cast iron stand. Exactly the same pump is known with a Siebe Gorman & Company Ltd plate and a similar pump was produced by Four Oaks Sprayers. The Four Oaks version I know of is dated 1916 and has the broad arrow military mark. Pumps of this type were used in WW I as trench pump. However, they were versatile pumps and may have been put to other uses.

The main barrel is divided internally into two separate compartments which run almost the full length of the main barrel. One houses the plunger and the other allows flow from the front (left) of the pump to the hose outlet. It has back-to-back cup washers. Flow through the pump is controlled by two one way valves. One is in the front (left) removable section. This opens on the back (pull) stoke to allow liquid to be sucked into the plunger barrel, but closes on the push stroke. The other, situated at the front of the of the outlet compartment, is closed on the back stroke, but open on the push stroke so that pushing the plunger in forces the liquid through the valve into the outlet compartment then through the hose. It does not appear to have an air chamber.

W T French

Below :- Examples of a bilge pump (left), an oil pump for a barrel or cask (centre) force lift pump (Right).

Oil or Tallow Syringes

Above :- Oil or Tallow Syringe No. 0101. These resemble garden syringes apart from the nozzle. These syringes could have been used for lubricating oils, but also for use in cooking, soap making or candle making. Tallow is a rendered form of beef or mutton fat. Tallow and compounds including tallow were widely used to lubricate locomotive and steamship engines at least until the 1950s.

W T French

Paint Sprayers

Some paint sprayers superficially resemble sprayers. They are essentially air containers which are pressurised to supply air to spray guns. Air is pressurised with an inbuilt air pump or with a separate foot pump.

Left :- The HANDYMAN MINOR PAINT SPRAYER. Without the spray guns this would resemble a sprayer.

Butchery, Medical and Veterinary - Syringes and Pumps

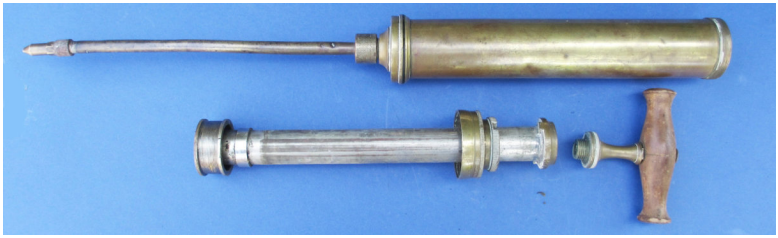
Brining pumps and salting syringes were used for preserving meet by injecting it with brine. Some can superficially resemble horticultural syringes, especially if the needle like nozzle is missing. Others are identical in construction to attachable pumps, however, they are likely to be nickel-plated. Medical syringes are smaller than horticultural syringes and have different handles. Syringes used for veterinary purposes can be similar to sprayers, especially if the nozzle is missing. Calf inflators were used to pump air into a carcass. These can superficially appear to be air or bilge pumps.

Left :- Veterinary syringe

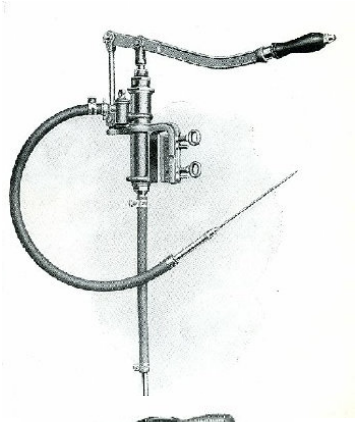
Above :- No. 105 Salting Syringe. Nickel-plated. Barrel length 14 inches.

Right :- Poultry singeing lamp.

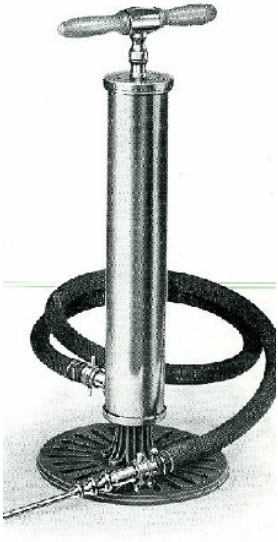
W T French



Above :- [803] Cattle syringe. Based on patent GB191402858A dated 3 December 1914. Barrel length 9 inches and diameter 2 inches. The piston rod has a diameter of 1 inch. The handle unscrews allowing the injectors to be stored in the piston rod. Brass with chromium plating.



Left :- Brine pump. Used to inject brine into meat or fish. This process was introduced to aid preservation but also adds to the flavour and colour to the meat. They can be similar to syringes or, as with the one on the left, based on a force pump. If the nozzle is present then this will be a hollow needle. As they were for use with food they are usually nickel-plated.

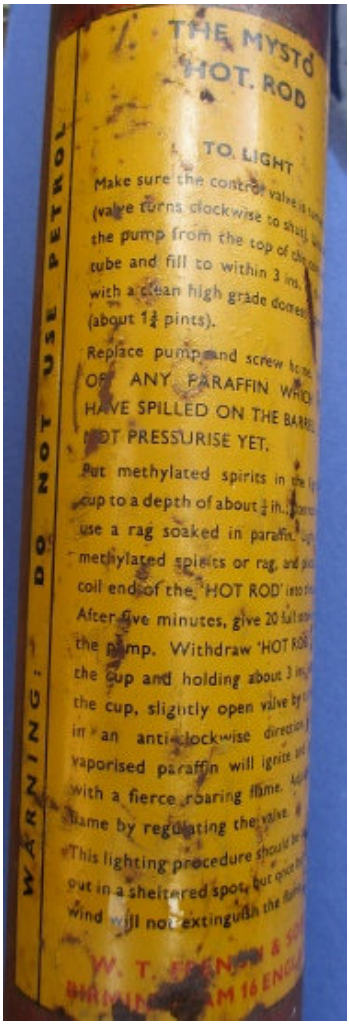


Left :- Calf Inflator or Winding Pump used in the preparation of animal carcasses. It is used to pump air into a dead calf or other carcass with a view to making them appear more plump or fat by filling the cellular membrane with air but also to making the flaying (skinning) easier. Other manufacturers made version which look more like syringes.

Instructions for use - Insert the needle with cutting end by gentle pressure through the skin at the part required (no previous puncture or slit being necessary). Work the inflator until the Calf is blown out, when the needle can be withdrawn, the hole immediately closing and retaining the air, or the inflator can be unscrewed, leaving the needle in the animal until the flesh is firmly set.

W T French

HOT ROD FLAME GUN



[326] {2} Similar in concept to a blow lamp. Pressurised paraffin is force into a burner. Lighting was done using methylated spirits and was advertised as taking 5 minutes.

The flame gun held 1¾ pints of paraffin which would burn for 25 to 25 minutes.

Flame weeding may be one of the best options for ridding areas, whether a garden or a multiple-acre farm of weeds. As an organic process, its benefits are twofold: as it kills weeds and gives crops or other plants an opportunity to grow, it replenishes the soil of nutrients without any human effort.

W T French

OTHER WARES

W T French made many other household articles. These included hearth furniture (coal boxes and companion stands), hollow ware (saucepans, kettles, tea pots), electrical good (electric kettles, electric hot plate, electric fires, electric irons), soap dispensers, vegetable racks, bread makers and garden seats. Examples of a few of these are shown below.

Above :- [631] Mysto aluminium kettle and Mysto copper electric kettle.

Above :- [632] Mysto copper electric kettle.

W T French

Above :- [939] Mysto small copper electric kettle. Height 5 inches and diameter 6 inches. Capacity 1 pint. Advertised in 1948.

Left :- [633] Mysto Electric boiling plate. Circa 1930. Advertised for use with the MYSTO SUPER-WARE range. This was a range of aluminium utensils for use on electric hotplates. Said to pay for itself by the current saved. The range includes the super stew pan, the quick boiling super kettle, the super fry pan and the super square saucepan.

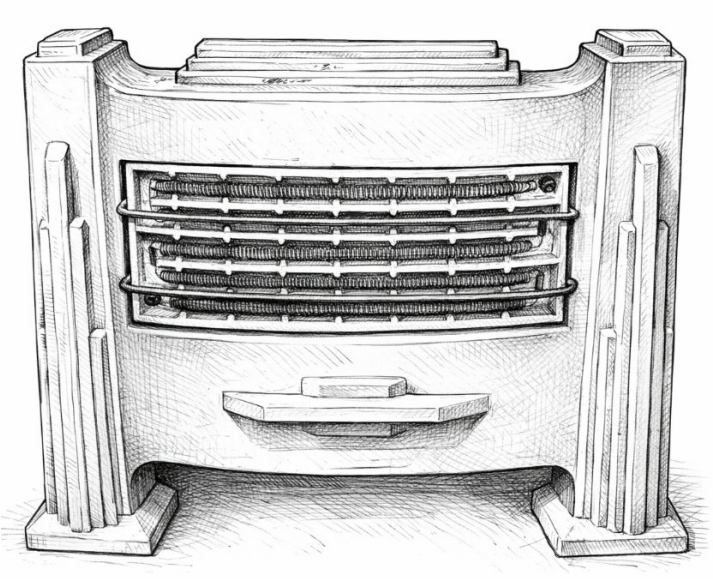
Left :- Mysto 3 pint tea pot in aluminium.

W T French

Below:- Mysto Portable Iron. With box.

W T French

Below:- Drawing of Mysto Electric Fire



W T French

Appendix 1 - References

Below is a list of selected newspaper articles and other references which contain important information on the companies covered in this chapter. Listed in relevant date order. Information from these is referred to in the history of the companies.

1865a - Cornish Guardian 29th July 1932 - Mentions that W T French been making syringes from 1865.
1919a - Belfast News Letters 30th May 1919 - W T French & Son. Mention of Mysto.
1919b - Ballymena Weekly Telegraph 21th June 1919. W T French & Son mention of Florist's Friend range.
1919c St Helens Newspaper and Advertiser 26th Sept 1919 - Advertisement for Mysto rat trap which caught and drowned the rats.
1932a - Daily Herald 23 July 1932 - Mysto fly spray kit.
1932b - Cornish Guardian 29th July 1932 - Mentions catalogue 80 dated 1932 and that the company W T French & Son is an all British company.
1932c - Weekly Dispatch 21st August 1932 - Mentions a London Office address. Spencer House, South Place EC2.
1936a - Birmingham Daily Gazette 15th August 1936. Formation of W T French & Sons Ltd.
1936b - Birmingham Daily Post 15th August 1936. Formation of W T French & Sons Ltd. Note this refers to 'Sons' which may be a mistake.
1939a - Liverpool Journal 19th December 1939 - Advertisement for Mysto ARP stirrup pump.
1944a - Tewksbury Register 5th August 1944 - Advertisement covering the backpack sprayer and a powder blower.
1950a - Illustrated Sport and Dramatic News 19 April 1950 - W T French & Son Ltd advertisement with Mysto Man and backpack sprayer. Illustrated Sport and Dramatic News 28 June 1950. Advertisement for Bailiff Sprayer.
1950b - Birmingham Daily Post 26th May 1950 - Purchase of W T French & Son Ltd by Warne, Wright and Roland,
1951a - Birmingham Daily Gazette 4 July 1951 - Purchase of W T French & Son Ltd and Carpenter and Allen Ltd.
1954a - Birmingham Daily Gazette 3rd May 1954 - W T French & Son Ltd. Mentions the Mysto Maid in connection with domestic appliances.
1954b - Birmingham Daily Post 30th July 1954 - Warne Right and Roland AGM. Report includes loses at W T French Son.**1955a - Birmingham Daily Gazette 31 March1955**. W T French & Son Ltd. Agreement with Bescol Ltd re the manufacture and distribution of W T French electrical goods.
1955a - Birmingham Daily Gazette 31 March1955. W T French & Son Ltd. Agreement with Bescol Ltd re the manufacture and distribution of W T French electrical goods.
1957a - The Daily Mirror 2 April 1957 - Advertisement for Mysto Easispray W T French & Son Ltd, Mysto Works, Birmingham 16.
1957b - The Daily Mirror 1st June 1957 - Advertisement for Mysto Easispray W T French & Son Ltd, Mysto Works, Birmingham 16.
1957c - Brass Saga -Edgar N Hiley. Published 1957, A book giving ab account of the main brassfounders working at the time.

W T French

Appendix 1 (Continued) - References

1958a - **Birmingham Daily Post 23rd January 1958 -** Formation of Browning Street Industries. **1961a - Hampstead News 19th May 1961** - Advertisement for the new Mysto W sprayer.
1961b - Birmingham Post 17th May 1961 - Long service awards for three Carpenter & Allen Ltd employees.
1962a - Birmingham Post 9th May 1962 - Purchase of Apex Sprayers by Warne, Wright and Roland.
1962b - Wishaw Press 22nd June 1962 - Report that an official from W T French had said that plastic was replacing traditional materials.
1963a - Birmingham Daily Post 2nd September 1963 - Covers the W T French and Son Ltd merger with Testar and Swain Ltd to form ASL. Mentions that Apex Sprayers Ltd are included.
1963b - **Birmingham Daily Post 3rd October 1963 -** Covers the W T French and Son Ltd merger with Testar and Swain Ltd to form ASL.
1966a - Birmingham Daily Post 25 February 1966 - Details of Fire. Also pictures and information on SLAYER sprayer production,
1966b - Birmingham Daily Post 25 May 1966 - Opening of new building following fire.
1968a - Birmingham Daily Post 15th August 1968 - Comprehensive article about ASL covering the merger and current situation. Photograph of Hilton Newton-Mason.
1973a - Birmingham Daily Post 20th August 1973 - Summary of the history of Warne, Wright and Roland including mention of hiving off of W T French & Sons Ltd.
1978a - Companies House records for ASL-Airflow Ltd - This was the new name for Testar and Swain Ltd.
1985a - Companies House records for ASL-Airflow Ltd - Company is no longer trading.
1994a - Birmingham Mail 9 June 1994 - David Codling reflecting on his time with Hozelock.
2023a - Companies House records for Associated Sprayers Ltd

W T French

Appendix 2 - Advertisement 1946

W T French

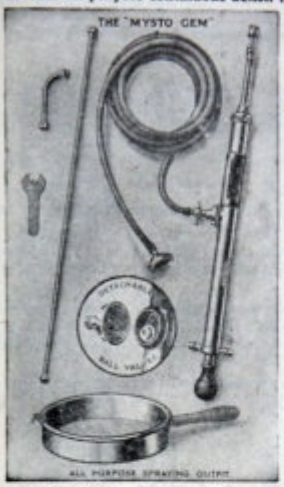
.Appendix 3 - Leaflet 1951

W T French

Appendix 4 - Leaflet 1938

The "MYSTO GEM" Spraying Outfit, No. 39 (S).

The ideal all-purpose continuous action hand spray

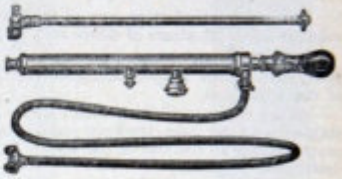


The ideal All-Purpose Hand Sprayer, its field of utility being practically unlimited. Most useful for spraying Fruit and Rose Trees, Bushes, and any Ground Crops, Limewashing, Creosoting and Disinfecting purposes.

Outfit Comprises: All-Brass Spray Pump, **giving continuous spray,** one Limewashing and Spraying Nozzle, also plain Jet, ten feet of good quality Hose, with Strainer, 2 foot polished and Lacquered Brass Lance, Swivel Connection Angle Bend, All-Metal Strainer and Spanner.

Complete **30/-** as illustrated
"Gem Jnr." 21/-

MYSTO "NIPPY" Self-supplying Sprayer (S).



The Mysto "Nippy" is invaluable for destroying green fly and other insects on rose bushes, fruit trees, etc., also for general spraying in conservatory or greenhouse. Ideal for disinfecting dogs and other animals, destroying insect pests in poultry pens, etc., spraying stock against foot and mouth disease.

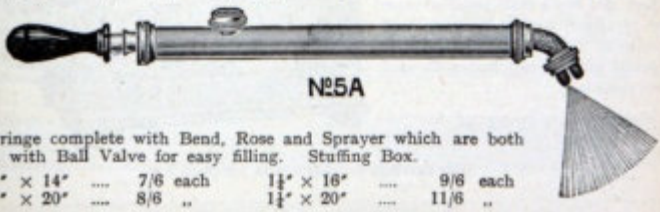
Polished Brass Sprayer—12" × 1" Barrel. Complete with 6 ft. Rubber Hose and Ball Valve Suction, Rose, Jet and Moveable Swivel Spray Nozzle, all of which can be used with or without the 15" Extension Lance supplied.

Complete 10/9 each

№ 7

With Ball Valve Rose, Ball Valve Jet and Ball Valve Spray Nozzle and bend. Spray Nozzle fitted with fine hole spraying cap and spare medium size spraying cap is also supplied. With drip sleeve which prevents user getting wet. Stuffing Box.

1" × 14"	....	....	12/6 each	1½" × 16"	....	....	16/6 each
1" × 20"	....	....	14/6 „	1½" × 20"	....	....	19/6 „



№5A

Syringe complete with Bend, Rose and Sprayer which are both fitted with Ball Valve for easy filling. Stuffing Box.

1" × 14"	....	7/6 each		1½" × 16"	....	9/6 each	
1" × 20"	....	8/6 „		1½" × 20"	....	11/6 „	

W T French

.Appendix 5

W T French

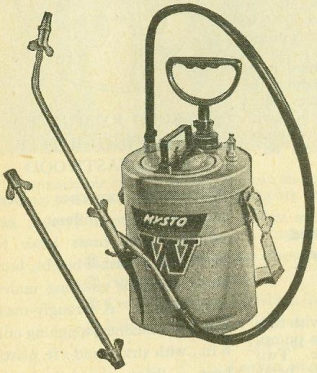
.**Appendix 6 -** Leaflet 1959

W T French

.Appendix 7 - 1965

The MYSTO 'W' (S)

Pneumatic Sprayer



Construction : The W/MS range is of mild steel, protected internally with a special plastic resin coating which resists most chemicals including copper compounds. Both are electrically seam welded for strength and durability.

Capacity : W/MS/1—total 1½ gallons, working 1 gallon (as illustrated above); W/MS/2—total 3 gallons, working 2 gallons.

Operation : The spray fluid is put under compression by pumping in air by the self-contained piston type pump. There is a large separate liquid entry and it is not necessary to remove the pump for filling.

Weight : W/MS/1—9½ lbs.; W/MS/2—12 lbs.

Harness : One adjustable rot proof webbing strap.

Prices : W/MS/1, 1-gallon £6 18s. 8d.
W/MS/2, 2-gallon £8 8s. 0d.

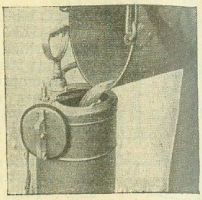
Extras : A backrest can be fitted to the 2 gallon model, price 24/-.

Weedkilling boom for both models. 3 ft. Swath cover. Complete, 35/4.

Set of spare washers for all models, 7/6.

The only Pneumatic Sprayer that is

Easy to Fill

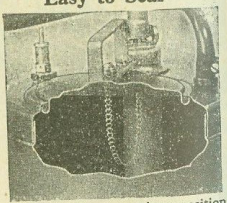


The large "pour shaped" opening 4½" × 3½" makes the sprayer easy to fill without spilling.

Easy to Clean

The large opening gives ready access for hand and arm to the inside of the container for thorough cleaning.

Easy to Seal



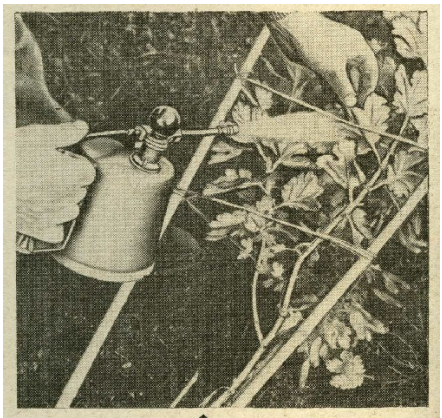
(A) Lift the cover into position from inside the tank, then lock into place by a quarter turn of the handle. See how the ends of the handle are lifted by cams to compress cover gasket and form a tight seal.
(B) With the first strokes of the pump the pressure inside the tank seals the cover tighter against the gasket—THE HIGHER THE PRESSURE THE TIGHTER THE SEAL.

W T French

.Appendix 8 - 1959

W T French

.**Appendix 9 - 1959** (top) **and 1962** (bottom)



7. When spraying with insecticides and fungicides the undersides of the leaves must be wetted as well as the upper surfaces. This will ensure that there are not any insects left.

W T French

.Appendix 10 - COMET Sprayer

W T French

.Appendix 10 - COMET Sprayer

Maintenance

It is important that the air pump plunger be withdrawn periodically and cleaned. Expand the leather plunger at the outer edge until it is considerably larger than the diameter of the barrel and soak it thoroughly with oil. Take care not to double over the edge of the leather upon entering it into the barrel, or the pumping will be ineffective. Oil the rod.

Should a new leather ever be required, care should be taken to obtain one of the correct size. The base of the leather cap should be about $\frac{1}{16}$" less than the inner diameter of the barrel.

If the handle tends to push back unduly at the end of the inward stroke, there will be foreign matter in the ball valve. Unscrew the pump from the sprayer, screw out the ball valve thus exposed and throughly clean the ball and its seating.

Keep the liquid filter (at the bottom of the down-tube) well cleared of sediment.

If the liquid valve turns too freely, tighten down the hexagon gland nut a little. This will compress the inside string packing, and will also prevent liquid leaking up the valve stem.

Do not remove the jet Barrel unless there appears to be some internal blockage. Ensure that the liquid hole in the jet centre is clear.

Should the jet barrel tend to stick unduly when operating it, screw out the jet barrel and treat the small inner circle of the rubber ring with a soft lead pencil (or dry graphite). This will serve as a lubricant.

The leather plunger will last much longer, and the pumping will be very much lighter and more efficient, if a few drops of oil are applied regularly down the hole in the pump end cap (handle end).

After using with corrosive liquids, or with liquids that leave sediment, thoroughly rinse out container with clear water.

MYSTO

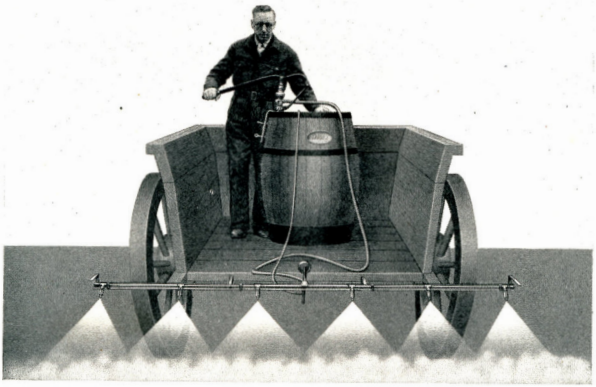
W. T. FRENCH & SON LIMITED, "MYSTO" WORKS, BROWNING STREET, BIRMINGHAM 16

W T French

.Appendix 11 - COMET Sprayer

W T French

.Appendix 12 - MYSTO PLANTECTOR - circa 1949



'MYSTO' PLANTECTOR

LOW PRESSURE BOOM SPRAYER

This equipment is specifically designed for LOW PRESSURE SPRAYING, and especially for use with selective weed killers such as "Agroxone" or "Verdone."

The model illustrated is for fixing to a cart and for manual operation. The Maximum pressure in the system is 30-lbs. per square inch, and there is a release valve which allows surplus liquids to return to the supply tank . . . . At this pressure each jet will pass 4.5 gallons of liquid per hour, and when moving at 4 m.p.h. the amount of fluid used is about 7.5 gallons per acre.

All jets are mounted with individual filters, and should be at 45 degrees to the horizontal with their tips 18" from the ground. Spare jets are available and are easily fixed . . . . The illustration shows a rigid boom of 8 feet. Other lengths can be made on receipt of details.

Sole Manufacturers

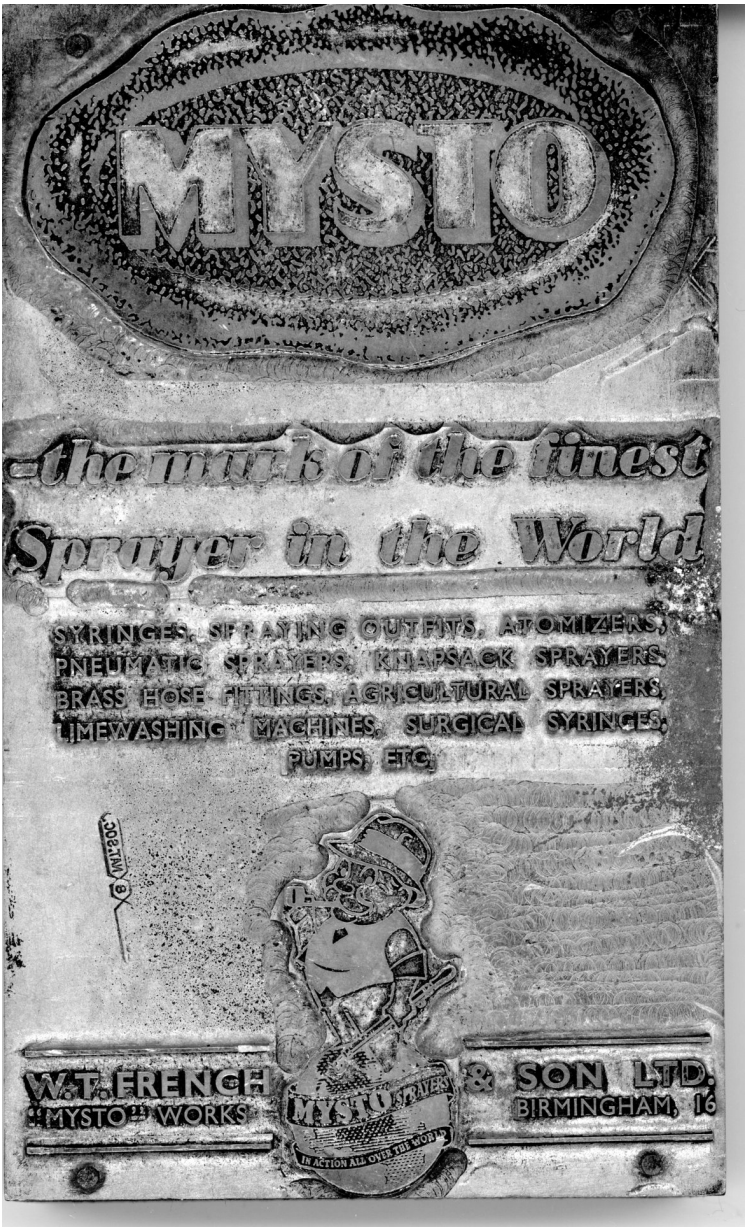
MYSTO SPRAYERS IN ACTION ALL OVER THE WORLD

W. T. FRENCH & SON LTD.,
"MYSTO" WORKS, BIRMINGHAM 16, ENGLAND

Printed in England.

W T French

.**Appendix 13 -** Printing Plate (reversed) [865]



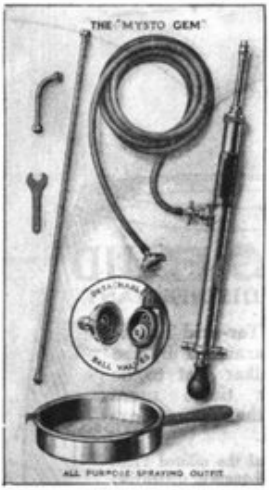
W T French

.Appendix 14 - 1926 Advertisement.

THE MILK & DAIRIES ORDER, 1926,

which came into force on October 1st, specifies that all keepers of Cows shall Limewash or otherwise disinfect all cowsheds at least twice per year, and at such other times as may be necessary.

There is a "MYSTO" Sprayer to meet every spraying requirement



The "MYSTO GEM"

The ideal All-Purpose Hand Sprayer, its field of utility being practically unlimited. Most useful for spraying Fruit and Rose Trees, Bushes, and any Ground Crops, Limewashing and Disinfecting purposes, also for cleaning Windows, etc.

Outfit comprises: Double-Action All-Brass Spray Pump, **giving continuous spray.** One Limewashing and one Spraying Nozzle, also plain Jet; Ten feet of good quality Hose, with Strainer; 2-ft. Polished and Lacquered Brass Lance Swivel Connection Angle Bend, All-Metal Strainer and Spanner.

30/- complete as illustrated.

Illustration shows the "BAILIFF" pattern machine limewashing a wall.

This is a strong double-action machine, comprising all-brass lever pump complete with six feet high pressure armoured spraying hose, polished brass lance with stop-cock, one limewashing and one spraying nozzle, complete in strong galvanized container, capacity six gallons, with strong perforated all-brass strainer.

OUTFIT COMPLETE - 92/6

Obtainable from all first-class Ironmongers, Implement Agents and Stores.

Sole Manufacturers of "Mysto" Sprayers:

W. T. FRENCH & SON,

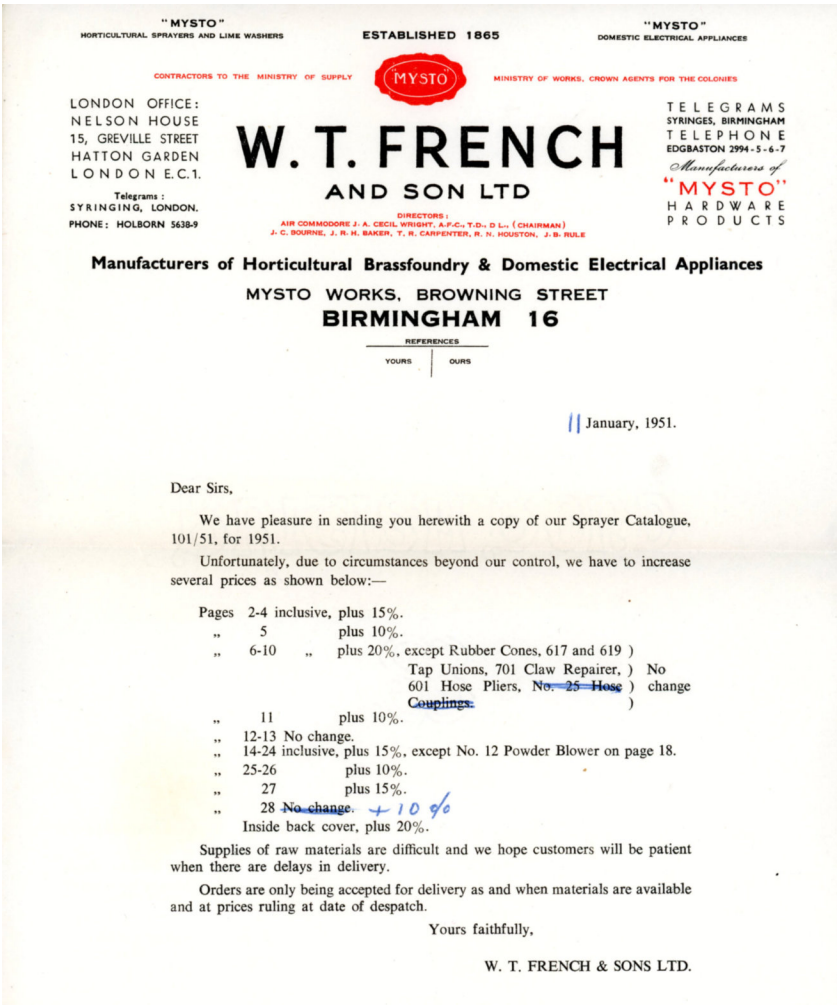
Mysto Works, Ladywood, BIRMINGHAM.

W T French

.**Appendix 15 -** 1928 Advertisement.

W T French

.Appendix 16 - 1951 Letter



"MYSTO"
HORTICULTURAL SPRAYERS AND LIME WASHERS

ESTABLISHED 1865

"MYSTO"
DOMESTIC ELECTRICAL APPLIANCES

CONTRACTORS TO THE MINISTRY OF SUPPLY

MYSTO

MINISTRY OF WORKS, CROWN AGENTS FOR THE COLONIES

LONDON OFFICE:
NELSON HOUSE
15, GREVILLE STREET
HATTON GARDEN
LONDON E.C.1.

Telegrams:
SYRINGING, LONDON.
PHONE: HOLBORN 5638-9

W. T. FRENCH
AND SON LTD

DIRECTORS:
AIR COMMODORE J. A. CECIL WRIGHT, A.F.C., T.D., D.L., (CHAIRMAN)
J. C. BOURNE, J. R. H. BAKER, T. R. CARPENTER, R. N. HOUSTON, J. B. RULE

TELEGRAMS
SYRINGES, BIRMINGHAM
TELEPHONE
EDGBASTON 2994-5-6-7
Manufacturers of
"MYSTO"
HARDWARE
PRODUCTS

Manufacturers of Horticultural Brassfoundry & Domestic Electrical Appliances

MYSTO WORKS, BROWNING STREET
BIRMINGHAM 16

REFERENCES
YOURS | OURS

11 January, 1951.

Dear Sirs,

We have pleasure in sending you herewith a copy of our Sprayer Catalogue, 101/51, for 1951.

Unfortunately, due to circumstances beyond our control, we have to increase several prices as shown below:—

Pages 2-4 inclusive, plus 15%.
„ 5 plus 10%.
„ 6-10 „ plus 20%, except Rubber Cones, 617 and 619) Tap Unions, 701 Claw Repairer,) No 601 Hose Pliers, ~~No. 25 Hose~~) change ~~Couplings.~~)
„ 11 plus 10%.
„ 12-13 No change.
„ 14-24 inclusive, plus 15%, except No. 12 Powder Blower on page 18.
„ 25-26 plus 10%.
„ 27 plus 15%.
„ 28 ~~No change.~~ + 10 %
Inside back cover, plus 20%.

Supplies of raw materials are difficult and we hope customers will be patient when there are delays in delivery.

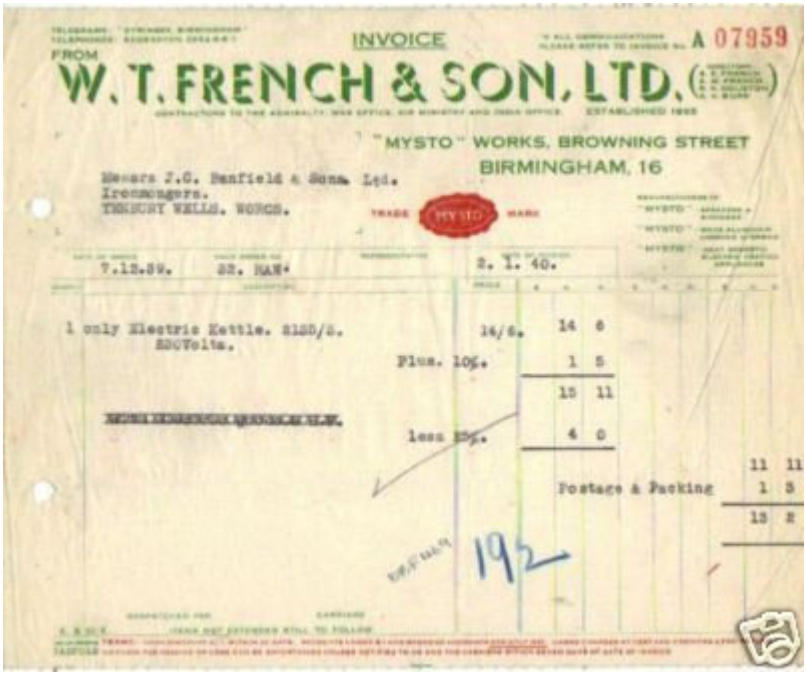
Orders are only being accepted for delivery as and when materials are available and at prices ruling at date of despatch.

Yours faithfully,

W. T. FRENCH & SONS LTD.

W T French

.**Appendix 17 -** 1940 Invoice



INVOICE

A 07959

FROM

W. T. FRENCH & SON, LTD.

"MYSTO" WORKS, BROWNING STREET
BIRMINGHAM, 16

Messrs J.C. Banfield & Sons Ltd.
Ironmongers.
TENBURY WELLS. WORCS.

TRADE MYSTO MARK

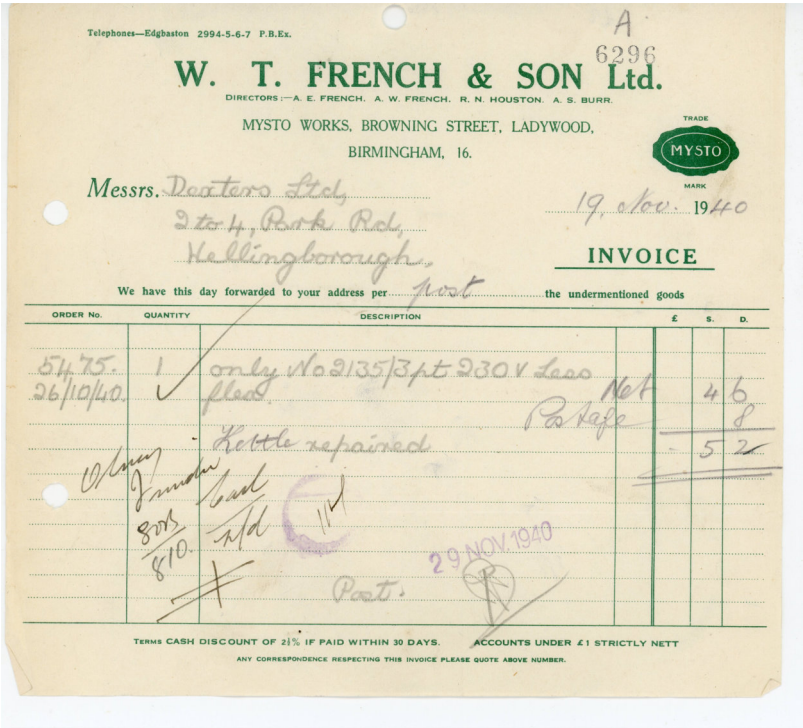
7.12.39. 32. RAN. 2. 1. 40.

1 only Electric Kettle. 2125/3. 230Volts.	14/6.	14	6
	Plus. 10%.	1	5
		15	11
[redacted]	less 25%.	4	0
		11	11
	Postage & Packing	1	3
		13	2

192

W T French

.**Appendix 18 -** 1940 Invoice



Telephones—Edgbaston 2994-5-6-7 P.B.Ex.

A
6296

W. T. FRENCH & SON Ltd.

DIRECTORS:—A. E. FRENCH. A. W. FRENCH. R. N. HOUSTON. A. S. BURR.

MYSTO WORKS, BROWNING STREET, LADYWOOD,
BIRMINGHAM, 16.

TRADE MYSTO MARK

Messrs. Dexters Ltd,
2 to 4, Park Rd,
Hellingborough.

19, Nov. 1940

INVOICE

We have this day forwarded to your address per post the undermentioned goods

ORDER No.	QUANTITY	DESCRIPTION		£	S.	D.
5475. 26/10/40.	1	only No 2135/3 pt 230 V Less flex.	Net		4	6
			Postage			8
		Kettle repaired			5	2

Okay
Jnndw
Cash
8 OB
810.
n/d

29 NOV 1940

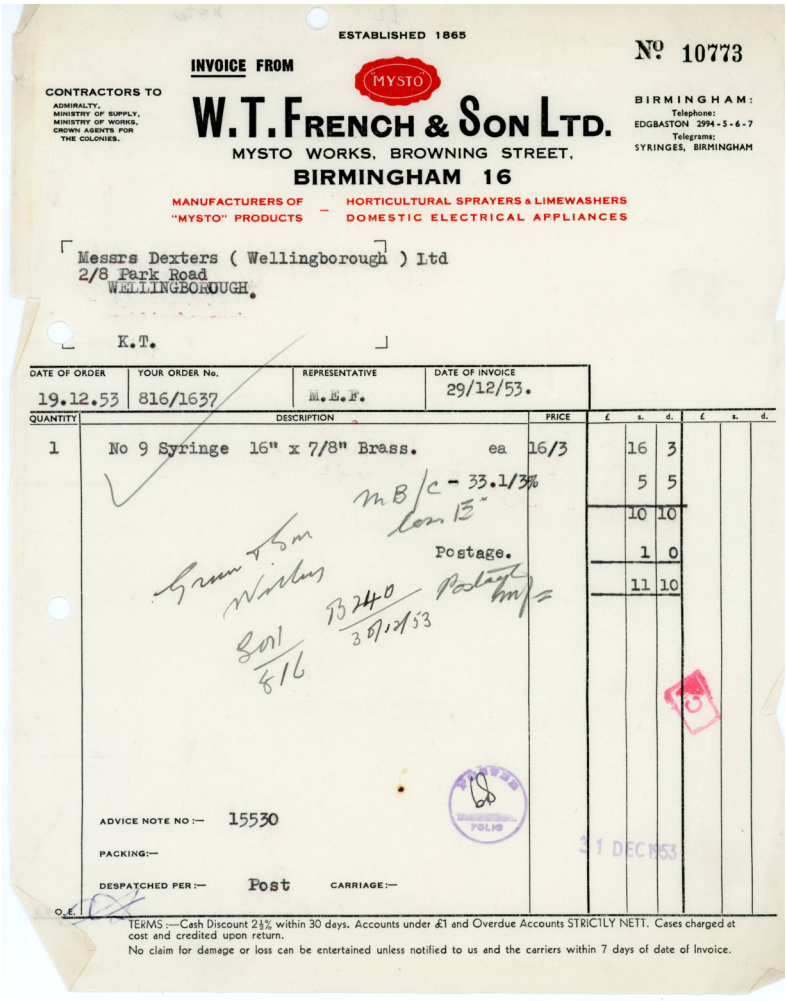
Post.

TERMS CASH DISCOUNT OF 2½% IF PAID WITHIN 30 DAYS. ACCOUNTS UNDER £1 STRICTLY NETT

ANY CORRESPONDENCE RESPECTING THIS INVOICE PLEASE QUOTE ABOVE NUMBER.

W T French

.**Appendix 19** - 1953 Invoice



ESTABLISHED 1865

INVOICE FROM

MYSTO

Nº 10773

CONTRACTORS TO
ADMIRALTY,
MINISTRY OF SUPPLY,
MINISTRY OF WORKS,
CROWN AGENTS FOR
THE COLONIES.

W.T. FRENCH & SON LTD.

MYSTO WORKS, BROWNING STREET,
BIRMINGHAM 16

BIRMINGHAM:
Telephone:
EDGBASTON 2994-5-6-7
Telegrams:
SYRINGES, BIRMINGHAM

MANUFACTURERS OF "MYSTO" PRODUCTS
HORTICULTURAL SPRAYERS & LIMEWASHERS
DOMESTIC ELECTRICAL APPLIANCES

Messrs Dexters (Wellingborough) ltd
2/8 Park Road
WELLINGBOROUGH.

K.T.

DATE OF ORDER	YOUR ORDER No.	REPRESENTATIVE	DATE OF INVOICE
19.12.53	816/1637	M.B.F.	29/12/53.

QUANTITY	DESCRIPTION	PRICE	£	s.	d.	£	s.	d.
1	No 9 Syringe 16" x 7/8" Brass.	ea 16/3		16	3			
	M B/c - 33.1/3%			5	5			
	Less 15"			10	10			
	Postage.			1	0			
				11	10			

ADVICE NOTE NO :— 15530

PACKING:—

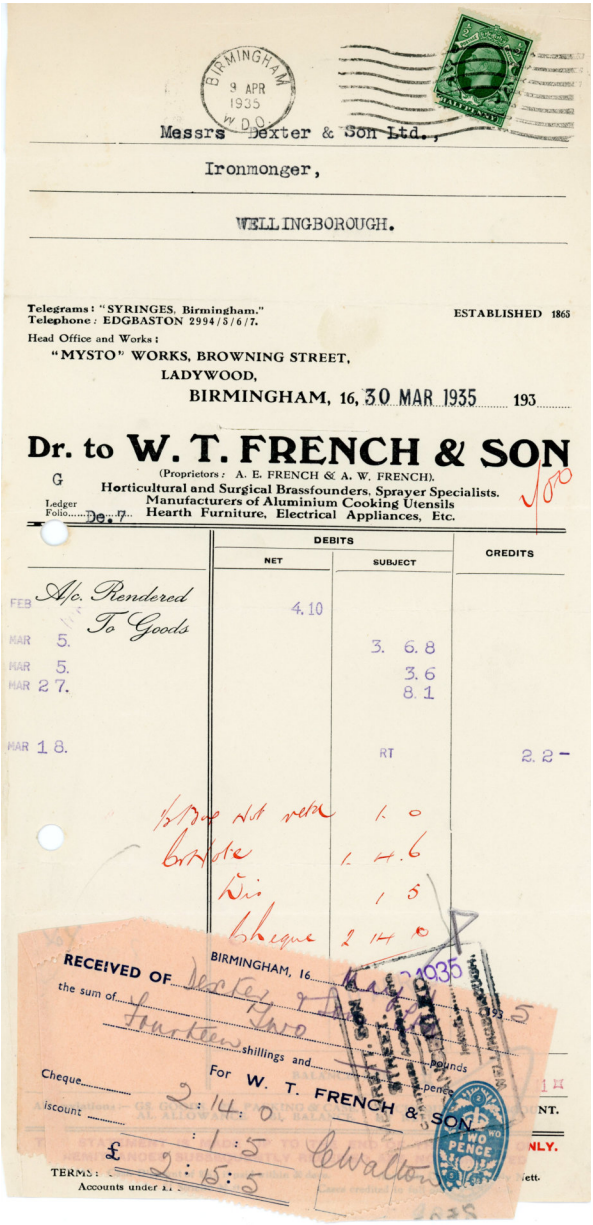
DESPATCHED PER :— Post CARRIAGE:—

O.E.

TERMS :—Cash Discount 2½% within 30 days. Accounts under £1 and Overdue Accounts STRICTLY NETT. Cases charged at cost and credited upon return.
No claim for damage or loss can be entertained unless notified to us and the carriers within 7 days of date of Invoice.

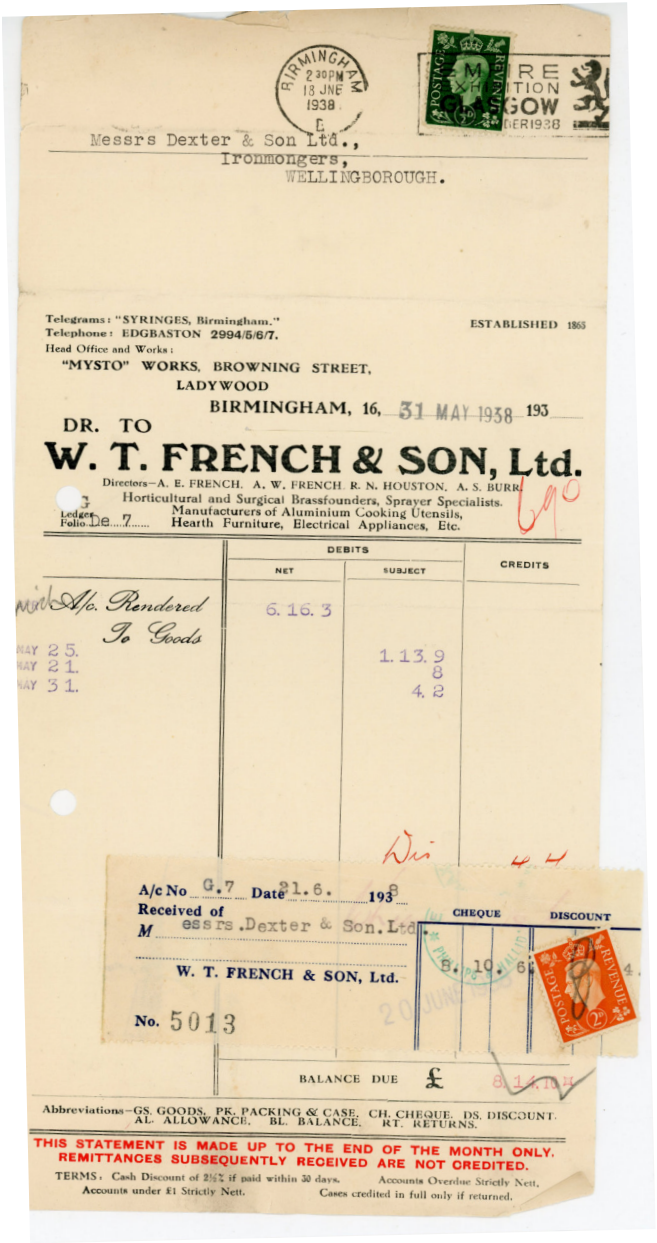
W T French

.**Appendix 20 -** 1935 Statement



W T French

.**Appendix 21 -** 1938 Statement



BIRMINGHAM 2 30PM 18 JNE 1938 E

Messrs Dexter & Son Ltd.,
Ironmongers,
WELLINGBOROUGH.

Telegrams: "SYRINGES, Birmingham."
Telephone: EDGBASTON 2994/5/6/7.
Head Office and Works:
"MYSTO" WORKS, BROWNING STREET,
LADYWOOD

ESTABLISHED 1865

BIRMINGHAM, 16, 31 MAY 1938 193

DR. TO

W. T. FRENCH & SON, Ltd.

Directors—A. E. FRENCH. A. W. FRENCH. R. N. HOUSTON. A. S. BURR.
Horticultural and Surgical Brassfounders, Sprayer Specialists.
Manufacturers of Aluminium Cooking Utensils,
Hearth Furniture, Electrical Appliances, Etc.

Ledger Folio De 7

690

	DEBITS NET	DEBITS SUBJECT	CREDITS
A/c. Rendered	6.16.3		
To Goods			
MAY 25.		1.13.9	
MAY 21.		8	
MAY 31.		4.2	

Dis 4.4

A/c No G.7 Date 21.6. 1938
Received of
M essrs. Dexter & Son. Ltd.

W. T. FRENCH & SON, Ltd.

No. 5013

CHEQUE	DISCOUNT
8.10.6	4.

BALANCE DUE £ 8.14.10

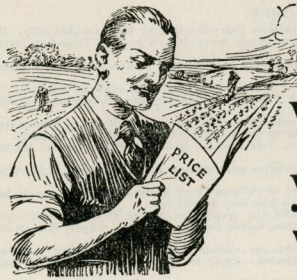
Abbreviations—GS. GOODS. PK. PACKING & CASE. CH. CHEQUE. DS. DISCOUNT. AL. ALLOWANCE. BL. BALANCE. RT. RETURNS.

THIS STATEMENT IS MADE UP TO THE END OF THE MONTH ONLY. REMITTANCES SUBSEQUENTLY RECEIVED ARE NOT CREDITED.

TERMS: Cash Discount of 2½% if paid within 30 days. Accounts Overdue Strictly Nett. Accounts under £1 Strictly Nett. Cases credited in full only if returned.

W T French

.Appendix 22 - Circa 1918



You want the best you can get. We can supply it.

Be sure you buy a "MYSTO" SPRAYER—the kind the Rt. Hon. Lloyd George used on his allotment at Walton Heath.

Order now in time for the Spraying Season. Later the demand is bound to exceed the supply and many will be disappointed.

The "MYSTO" Burgundy-Mixture Powder is a standard preparation which is readily soluble in cold water, and which contains in itself the copper and soda salts dried and reduced to fine powder, blended in due proportions, and tested and proved free from burning properties. To produce "Burgundy-Mixture" for potato spraying all that is required is to dissolve the "MYSTO" powder in the number of gallons of cold water specified and stir vigorously for a few minutes.

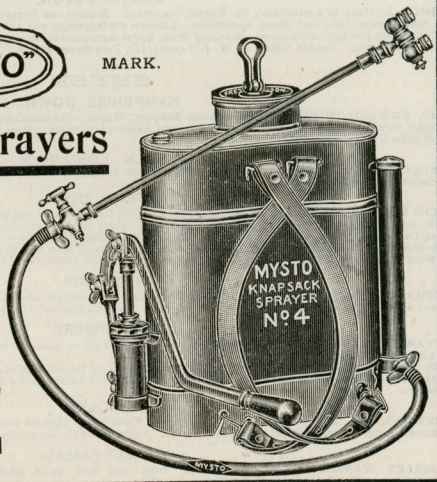
No. 1 packet, to make 8 gallons Burgundy-Mixture,						1/6 each.
„ 2	„	„	16	„	„	2/9 „
„ 3	„	„	45	„	„	7/6 „

TRADE "MYSTO" MARK.

Knapsack Sprayers

Price 70/- each.

"Mysto" Sprayers are stocked by the Leading Ironmongers and Agricultural Implement Dealers.



Sole Makers—

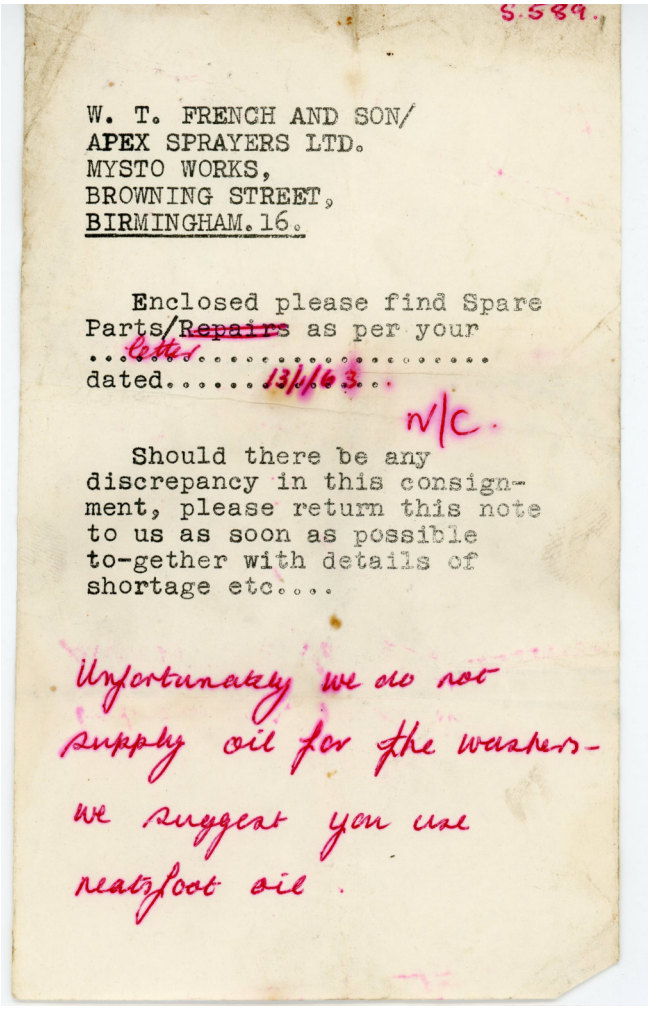
W. T. FRENCH & SON,

"Mysto" Works,

Ladywood, BIRMINGHAM

W T French

.**Appendix 23 -** 1963 Note



S.589.

W. T. FRENCH AND SON/
APEX SPRAYERS LTD.
MYSTO WORKS,
BROWNING STREET,
BIRMINGHAM.16.

Enclosed please find Spare Parts/~~Repairs~~ letter as per your ..... dated..... 13/1/63.

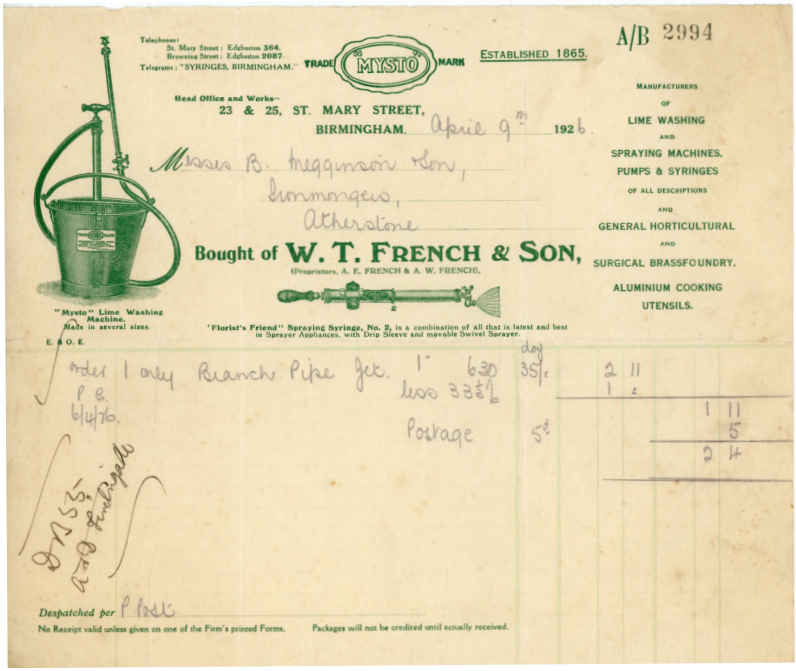
n/c.

Should there be any discrepancy in this consignment, please return this note to us as soon as possible together with details of shortage etc....

Unfortunately we do not supply oil for the washers - we suggest you use neatsfoot oil.

W T French

.Appendix 24 1926 Invoice



Telephones:
St. Mary Street: Edgbaston 364.
Browning Street: Edgbaston 2087.
Telegrams: "SYRINGES, BIRMINGHAM."

TRADE MYSTO MARK

ESTABLISHED 1865.

A/B 2994

Head Office and Works—
23 & 25, ST. MARY STREET,
BIRMINGHAM. April 9th 1926.

Messrs B. Heggmasin Son,
Ironmongers,
Atherstone

Bought of **W. T. FRENCH & SON,**
(Proprietors, A. F. FRENCH & A. W. FRENCH).

MANUFACTURERS OF
LIME WASHING AND SPRAYING MACHINES,
PUMPS & SYRINGES
OF ALL DESCRIPTIONS AND
GENERAL HORTICULTURAL AND SURGICAL BRASSFOUNDRY.
ALUMINIUM COOKING UTENSILS.

"Mysto" Lime Washing Machine.
Made in several sizes.
E. & O. E.

'Florist's Friend" Spraying Syringe, No. 2, is a combination of all that is latest and best in Sprayer Appliances, with Drip Sleeve and movable Swivel Sprayer.

order 1 only Branch Pipe Jet. 1" 6 30 doz 35/-
P & 6/4/26. less 33⅓ 2 11
1 2
Postage 5d 1 11
5
2 4

Despatched per Post

No Receipt valid unless given on one of the Firm's printed Forms. Packages will not be credited until actually received.

W T French

.**Appendix 25 -** 1956 Advertisement

Gardeners who buy

MYSTO SPRAYERS

will be friends of yours for life

No. 40 LADYWOOD Spray Outfit

This all-purpose continuous hand sprayer throws a stream of water 30/40 ft. up for tall fruit trees, etc. All-brass double-action pump, lacquered barrel ¾" × 18" with fixed jet. Also detachable spray nozzle and plug, one uncloggable needle lime-washing nozzle, 10 ft. hose and a swivel angle bend.

NIPPY SELF-SUPPLYING SPRAYER

In polished brass. Barrel 12" × 1" complete with 6 ft. rubber hose and suction; rose jet and movable swivel spray nozzle. 13½" extension lance included.

COMET ALL-PURPOSE HAND SPRAYER

This sprayer can be used with insectide, oil or creosote. The strong brass container is sprayed a gold finish. Its bent variable self-cleaning jet and adjustable liquid control give it a wide range of uses.

No. 156 PRESSURE RETAINING PNEUMATIC SPRAYER

In this model the air is kept under pressure so that after the first charge it is only necessary to pump liquid into the container. Pressure gauge, safety valve and discharging pipe are included in the top of the pump unit. Suction hose fitted with strainer and hook and 42" delivery hose with trigger release lance. 3 gallons capacity.

No. 6 PNEUMATIC TRIGGER RELEASE HAND SPRAYER

The gold-bronze-finished brass container of this model has a capacity of 2 pints. It includes a brass pump and fittings with a 3" bent lance. Longer lances can be supplied where required.

Nos. 158 159 PNEUMATIC SPRAYERS

Supplied in either two (No. 158) or three (No. 159) gallon sizes, this model has a strong brass container, spray-gold bronze finish and is fitted with trigger release comprising 18" straight and 12" bent sections with a "Mystojet" nozzle. A separate liquid entry is provided. Fittings include webbing and leather shoulder straps. 42" hose pressure gauge and pump.

MYSTO

SPRAYERS AND SYRINGES

Manufactured by

W. T. FRENCH & SON, LTD.

Mysto Works, Birmingham, 16

Write for details, catalogue and prices

W T French

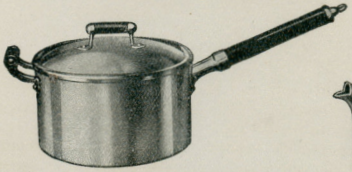
.Appendix 26 - Super-Ware Advert - circa 1930

Reduce your Electric Power Bills by Using

"MYSTO" SUPER-WARE

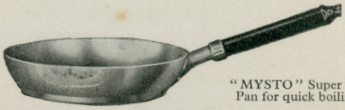
THE IDEAL ALUMINIUM UTENSILS FOR USE ON ELECTRIC HOTPLATES WHICH PAYS FOR ITSELF BY THE CURRENT IT SAVES

To ensure rapid and economical boiling on Electric Hot Plates it is essential to use perfectly flat bottomed utensils which make intimate contact with the top of the plate. Super Ware Utensils have bottoms which are machined quite flat, and as they are a ¼" in thickness they do not warp in use.

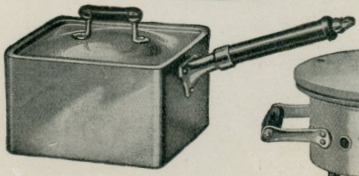


"MYSTO" Super Stewpan beautifully finished with vitreous enamel handle in artistic colours. Made in many sizes.

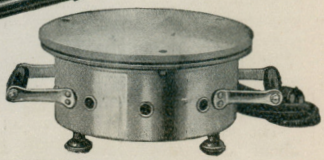
"MYSTO" quick-boiling Super Kettle with large flat bottom to cover the whole area of the hotplate.



"MYSTO" Super Fry Pan for quick boiling.



"MYSTO" Super Square Saucepan which economises space and is made for use on square or rectangular hot plates.



"MYSTO" Electric Boiling Plate for use with Super Ware. Makes an ideal addition to electric cooking equipment when more boiling space is required.

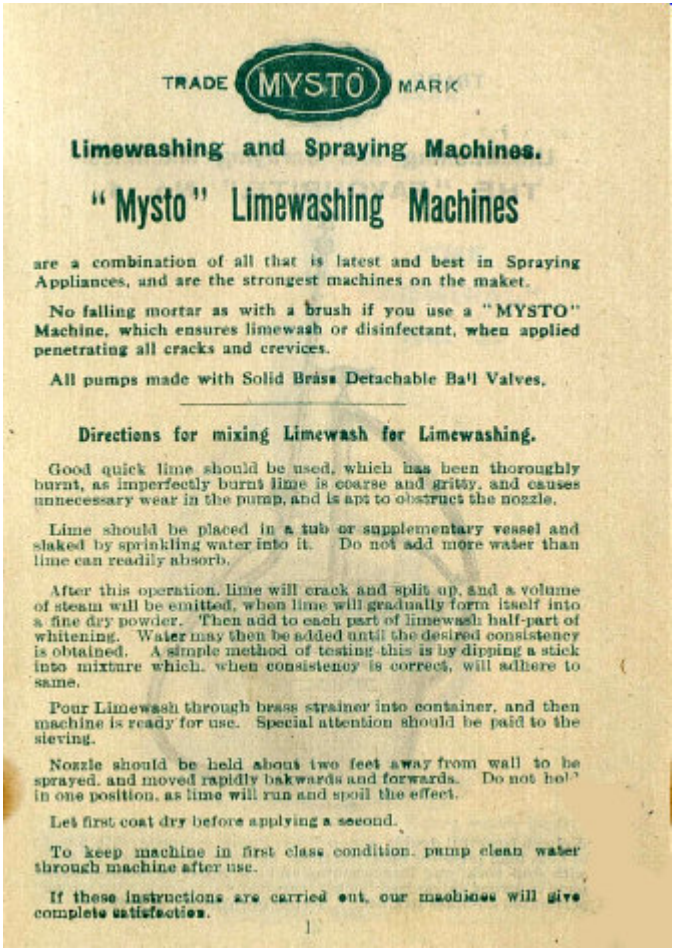
ASK YOUR DEALER FOR COMPLETE LIST OR WRITE DIRECT TO THE SOLE MANUFACTURERS

W. T. FRENCH & SON

LADYWOOD, BIRMINGHAM, 16

W T French

.Appendix 27 - 1918 - Limewashing machines - limewash instructions.



TRADE MYSTO MARK

Limewashing and Spraying Machines.

"Mysto" Limewashing Machines

are a combination of all that is latest and best in Spraying Appliances, and are the strongest machines on the maket.

No falling mortar as with a brush if you use a "MYSTO" Machine, which ensures limewash or disinfectant, when applied penetrating all cracks and crevices.

All pumps made with Solid Brass Detachable Ball Valves.

Directions for mixing Limewash for Limewashing.

Good quick lime should be used, which has been thoroughly burnt, as imperfectly burnt lime is coarse and gritty, and causes unnecessary wear in the pump, and is apt to obstruct the nozzle.

Lime should be placed in a tub or supplementary vessel and slaked by sprinkling water into it. Do not add more water than lime can readily absorb.

After this operation, lime will crack and split up, and a volume of steam will be emitted, when lime will gradually form itself into a fine dry powder. Then add to each part of limewash half-part of whitening. Water may then be added until the desired consistency is obtained. A simple method of testing this is by dipping a stick into mixture which, when consistency is correct, will adhere to same.

Pour Limewash through brass strainer into container, and then machine is ready for use. Special attention should be paid to the sieving.

Nozzle should be held about two feet away from wall to be sprayed, and moved rapidly bakwards and forwards. Do not hold in one position, as lime will run and spoil the effect.

Let first coat dry before applying a second.

To keep machine in first class condition, pump clean water through machine after use.

If these instructions are carried out, our machines will give complete satisfaction.

Limewash is one of the oldest paints known to man. The Pharaohs used it in ancient Egypt and it is still widely used throughout the world today. Recipes for making it vary - animal fat, linseed oil, skimmed milk, salt are often added for durability, and earth or synthetic pigments, soot, animal blood, etc, for colour. On the right surface, limewash has many benefits, being very breathable, long lasting and easily renewable. Being alkaline, it's anti-bacterial and an insecticide (woodworm and death-watch beetle hate it) - hence its wide usage on farm buildings. It also has fireproofing qualities.

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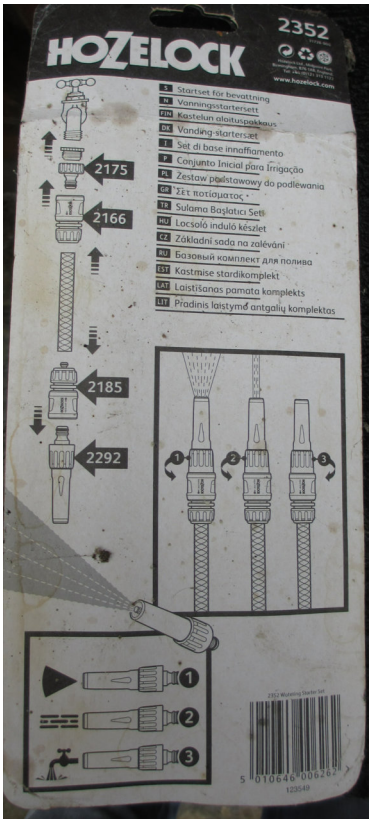
Appendix 28 - Hose Nozzle Kit (Circa 2010)



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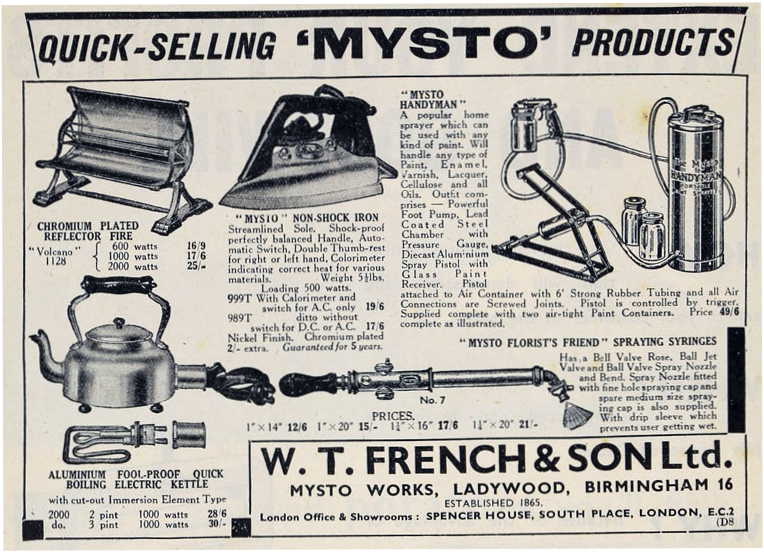
Appendix 29 - ASL - Spraymist - 1970

All purpose hand sprayer.

W T French

Appendix 30 - 1938 Advertising (Grace's Guide to British Industrial History**).**



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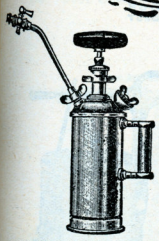
Appendix 31 - Army and Navy Stores Ltd 1937/1938

"MYSTO" Sprayers FOREMOST IN 1865 AND STILL THE BEST

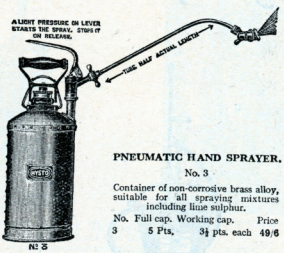


PNEUMATIC HAND SPRAYER.
No. 5

Container of polished copper, pump and fittings of brass, automatic safety valve filler cap. This machine having tubular handle it can be fitted on to a pole or bamboo cane for spraying vines, rose trees, etc., which are out of reach.

No.		Price
1	4-pt.	each 33/-
2	6-pt.	„ 39/6

Chromium Plated, 8/- extra.



PNEUMATIC HAND SPRAYER.
No. 3

Container of non-corrosive brass alloy, suitable for all spraying mixtures including lime sulphur.

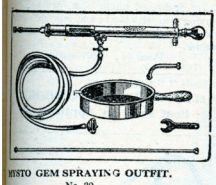
No.	Full cap.	Working cap.	Price
3	5 Pts.	3½ pts. each	49/6

PNEUMATIC KNAP-SACK SPRAYER.
Nos. 7 to 10

Container of "Mysto" non-corrosive brass alloy, suitable for all spraying mixtures, including lime sulphur. Auto release lance with spraying nozzle.

No.	Full Working cap.	cap.	Price.
7	1½ gall.	1 gall.	each 85/-
8	2½ „	2 „	„ 105/-
9	4 „	3 „	„ 124/-
10	5 „	4 „	„ 132/-

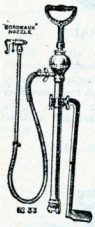
No 7



MYSTO GEM SPRAYING OUTFIT.
No. 39

An ideal all-purpose hand sprayer of practically unlimited utility, most useful for spraying fruit, rose trees, and ground crops; also limewashing and disinfecting. Outfit comprises, all brass continuous spray pump, 1 lime washing and 1 spray-ing nozzle, also plain jet, 10 feet of hose, with strainer; 2 ft. brass lance, angle bend, all metal strainer, and spanner.

No. 39 .. .. .. each 30/-



No 33

CRESCENT DOUBLE-ACTION BUCKET SPRAY PUMP.
No. 33

The ideal all-purpose hand pump, for fruit growers, farmers and poultry keepers. This model has a practically unlimited utility. Used largely for disinfecting against foot and mouth disease, destruction of insects, also general limewashing purposes, and for cleaning windows and motor cars. Supplied complete with 39 in. best quality spraying hose, brass lance, and nozzle. Can also be supplied, if required, for lime washing purposes with brass spraying arm and stop cock, and unclogable lime washing nozzle at 5/6 extra.

No. 33 .. .. .. each 27/6

No 21

PNEUMATIC HAND SPRAYER.
No. 1

Nickel Plated Brass Container of non-corrosive brass alloy suitable for all spraying mixtures. Most useful for disinfecting purposes.

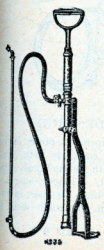
Full capacity, 2 pints. Working capacity, 1½ pints.

Price .. .. .. each 30/-
With Extension Arm 33/-

LADYWOOD SPRAYING OUTFIT. No. 40

This outfit will throw a solid stream of water to a height of 30/40 ft., and will draw water through a suction hose over 200 ft. long, with a lift of 25 ft. Most useful for cleaning of high situated windows, washing of motor cars, spraying of tall fruit trees, etc. Outfit comprises, all brass double-action spray pump, giving continuous spray, 10-ft. hose, and strainer, unclogable lime washing nozzle, and 1 spraying nozzle, also plain jet, 2 ft. brass lance, angle bend, all metal strainer and spanner.

No. 40 .. .. each 27/6



4329

SPRAY PUMP.
No. 35

An ideal pump where a high pressure stream of water is essential, such as the cleaning of high situated windows, washing of motor cars, etc. Fitted with a new improved air chamber, wrought iron stirrup and malleable iron foot piece. Supplied complete with 39 in. best quality spraying hose, 15 in. brass delivery lauce, and lime washing nozzle, which is fitted at an angle of 45° to facilitate the spraying of foliage and the underside of leaves; also for lime washing high inaccessible places. No zle gives fine or coarse spray.

No. 35 .. .. .. each 23/-

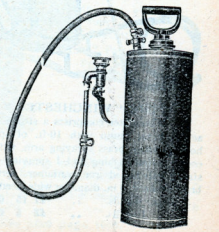
No. 155 PNEUMATIC SPRAYER.

Container and pump are of non-corrosive Brass Alloy, suitable for all spraying mixtures, including Lime of Sulpbur. Complete with 39 in. best ½ in. Spraying Hose, two Brass Hose Clips, Lance with Automatic Release, two Nozzles, two Leather Shoulder Straps and self-contained Removable Pump.

1 gallon–Polished and Lacquered Brass container .. 33/- each

2 gallon–Polished and Lacquered Brass container .. 38/6 each

3 gallon–Polished and Lacquered Brass container .. 44/- each



ALL PRICES ARE SUBJECT TO MARKET FLUCTUATIONS.

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Appendix 32 - Army and Navy Stores Ltd 1937/1938

MYSTO Sprayers FOREMOST IN 1865 AND STILL THE BEST

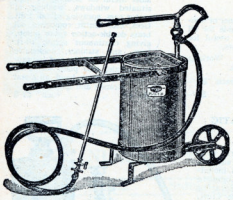
MYSTO NON-SPLASH

No. A.1.

The Mysto Non-Splash, as will be seen from the illustration, is an entirely new departure in spraying machine construction and design, thereby obviating all danger of the spraying liquid splashing when being carried. Specification includes strong Double Action Brass Pump firmly mounted in Container, 39 in. best quality Spraying Hose with Lance and Unclogable Limewashing Nozzle.

Price .. 43/6 each.

(If with lever handle, 49 – each.)

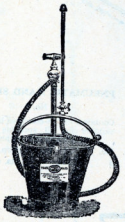


THE "WINCHESTER"

The Winchester comprises a strong double action brass pump with 10-ft. of spraying hose, polished brass spraying arm, with stop cock. 1 limewashing and 1 spraying nozzle, strong galvanized iron container, perforated brass strainer, 9 in. diameter wide faced wheel.

Price, 6-galls. .. £7 15 0

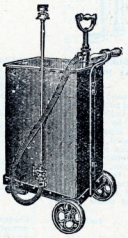
10-galls. .. £8 5 0



THE "ADMIRAL"

The Admiral comprises strong double action pump, with air chamber, supplied with 6-ft. of armoured spraying hose, polished brass spraying arm with stop cock, one limewashing and one spraying nozzle, strong 4-gall. galvanized iron bucket and all-brass strainer.

Price .. each. 63/–



THE "MYSTO MARVEL"

Limewashing and Spraying Machine

A double action Brass Pump with 39" of best quality high pressure Spraying Hose, Polished Brass Spraying Arm with Stop-Cock.

One Limewashing Nozzle and Straight Jet complete with strong 10-gallon Galvanised Iron Container and Perforated Brass Strainer.

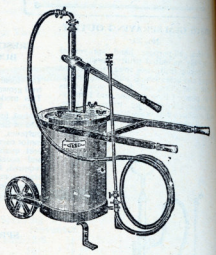
Price .. .. £3 6s.

THE "COUNTY"

The County comprises 6-gall. oval container, fitted with powerful double action brass pump with lever and air chamber, 6-ft. of armoured pump hose, polished brass spraying arm with stop cock, one limewashing and one spraying nozzle, and all-brass strainer.

Price .. 88/– each

"MYSTO" SPRAYING BOOKLET Post Free on Application.



THE "DENBIGH"

The Denbigh comprises a powerful double action brass pump, complete with agitator, and 10-ft. of hose, with polished brass spraying arm with stop cock, 1 limewashing and 1 spraying nozzle, all-brass strainer, in 10-gall. container with 9-in. diameter wide faced wheel.

Price .. £11 0 0

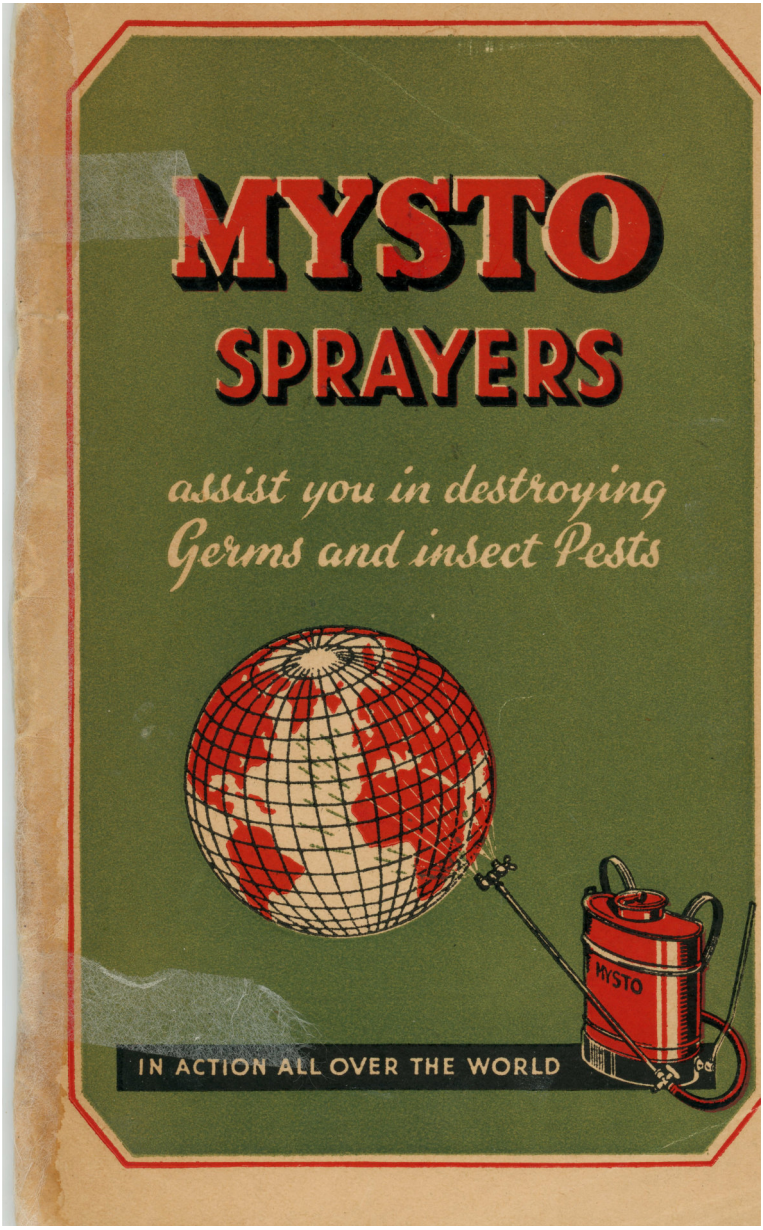
ALL PRICES ARE SUBJECT TO MARKET FLUCTUATIONS.

W T French

Appendix 33 - ARP Pump

W T French

Appendix 34 (1) - Catalogue 101/48 - Trade Price List



W T French

Appendix 34 (2) - Catalogue 101/48

TRADE PRICE LIST

"MYSTO"

QUALITY SPRAYERS

W. T. FRENCH & SON LTD.

"MYSTO" WORKS
BIRMINGHAM 16
ENGLAND

TELEPHONE · EDGBASTON 2994/5/6/7
TELEGRAMS · SYRINGES, BIRMINGHAM

Manufacturers of

LIMEWASHING AND SPRAYING MACHINES
GARDEN SYRINGES AND SPRINKLERS
KNAPSACK AND PNEUMATIC SPRAYERS
SALTING SYRINGES AND PUMPS
VETERINARY AND SURGICAL SYRINGES
AND HOSE FITTINGS.
ALSO HEARTH FURNITURE.

For Domestic Electrical Appliances—
see separate Catalogues.

Contractors to ADMIRALTY, THE WAR OFFICE, AIR MINISTRY and H.M. OFFICE OF WORKS.

CATALOGUE No. 101/48

W T French

Appendix 34 (3) - Catalogue 101/48

TERMS OF BUSINESS

CASH TERMS 2½% within thirty days (Home Trade only).

CARRIAGE All orders of £5 and upwards in value are sent carriage paid, to any address in the United Kingdom.

CASES Extra at cost, credited in full if returned in good condition within fourteen days. Half cost allowed if retained.

CONDITIONS OF SALE

All articles illustrated in this list are supplied subject to the following conditions :

That the manufacturer shall not be liable to make good any expenditure, damages *and/or* losses, arising out of any use or dealing with any goods, however such expenditure, damage or loss shall arise, and whether from any defect in the goods or otherwise, the manufacturer's liability being limited to the repair or replacing of such goods.

GOODS RETURNED FOR CREDIT

No goods will be accepted for credit without previous agreement in writing.

PRICES—The Company reserve the right to vary the list prices at any time, and all goods are invoiced at the prices current on the day of delivery. Should the price be increased prior to delivery, the Purchaser has the option of cancelling the order within seven days after being notified of such increase.

THIS CATALOGUE CANCELS ALL PREVIOUS ISSUES, DISCOUNTS AND SPECIAL PRICES QUOTED HITHERTO.

W T French

Appendix 34 (4) - Catalogue 101/48

W T French

Appendix 34 (5) - Catalogue 101/48

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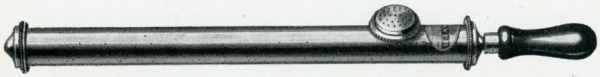
Appendix 34 (6) - Catalogue 101/48

FOREMOST IN 1865 **MYSTO** STILL THE BEST

POLISHED BRASS
SYRINGES
WITH DOUBLE LEATHER BUCKET PLUNGERS

No. **97—SYRINGE,** with polished Brass Barrel, stamped Detachable Brass Rose.

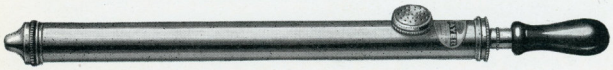
$1\frac{1}{4}'' \times 16''$ ... **6/-** each $1\frac{1}{2}'' \times 18''$ ... **6/9** each



POLISHED BRASS SYRINGE, strong gauge Detachable Fittings with collar on each end of Barrel.

No. **98/1**
One Rose and one Jet.
$1\frac{1}{4}'' \times 16''$ ... **8/-** each
$1\frac{1}{2}'' \times 18''$ ... **9/-** ,,

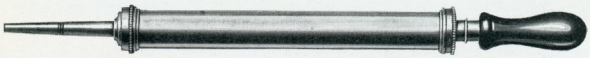
No. **98/2**
Two Roses and one Jet.
$1\frac{1}{4}'' \times 16''$ ... **9/9** each
$1\frac{1}{2}'' \times 18''$ ... **11/-** ,,



BRASS SYRINGE, with cast burnished fittings and Stuffing Box, with a collar on each end of Barrel.

No. **101/1**
One Rose and one Jet
$1\frac{1}{4}'' \times 16''$ ... **10/-** each
$1\frac{1}{2}'' \times 18''$ ... **11/-** ,,

No. **101/2**
Two Roses and one Jet
$1\frac{1}{4}'' \times 16''$ ... **12/-** each
$1\frac{1}{2}'' \times 18''$ ... **13/-** ,,



No. **0101—OIL OR TALLOW SYRINGE**

Strongly made of Brass, polished and lacquered, with 4″ Taper Jet—straight or bent.

$1'' \times 10''$ ... **9/-** each
$1\frac{1}{4}'' \times 12''$ ... **11/-** ,,

$1\frac{1}{2}'' \times 14''$ ... **13/-** each
$1\frac{3}{4}'' \times 16''$ ... **18/-** ,,

Page 5

W T French

Appendix 34 (1=7) - Catalogue 101/48

FOREMOST IN 1865 **MYSTO** STILL THE BEST

POLISHED BRASS
SPRAY SYRINGES
WITH DOUBLE LEATHER BUCKET PLUNGERS

No. **8/9—SYRINGE,** Fitted with Ball Valve Angle Sprayer, with Detachable Nozzle and Drip Ring.

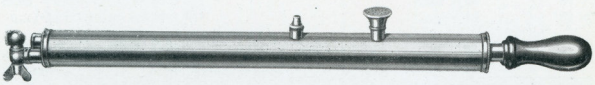
$\frac{7}{8}$″ × 12″ ... **6/6** each

No. **9—SYRINGE,** Fitted with Ball Valve Angle Sprayer, Drip Ring, etc.

$\frac{7}{8}$″ × 16″ ... **8/6** each

No. **11—SYRINGE,** fitted with Bend and Sprayer Nozzle having Valve for quick filling, and Drip Ring.

$\frac{7}{8}$″ × 16″ ... **9/-** each



No. **119—BRASS SPRAY SYRINGE,** with movable Fine Sprayer. Complete with Ball Valve for easy filling ; also Rose and Jet interchangeable with Sprayer, thus the Syringe can be filled very quickly whichever fitting is in operation.

$1\frac{1}{4}$″ × 16″ ... **11/-** each

$1\frac{1}{4}$″ × 20″ ... **12/-** each

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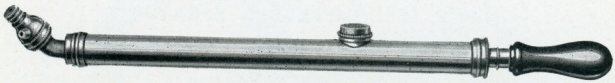
FOREMOST IN 1865 **MYSTO** STILL THE BEST

FLORISTS' FRIEND

GARDEN SYRINGES

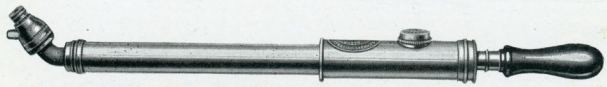
POLISHED AND LACQUERED BRASS

HEAVY PATTERNS
WITH BRASS PLUNGERS, COTTON PACKED



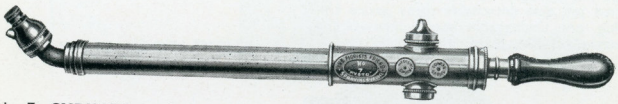
No. **5—SYRINGE,** complete with Bend and Rose, also Sprayer, which is fitted with Ball Valve for easy filling. Stuffing Box.

1″×14″ ... **15/-** each 1″×20″ ... **16/6** each
1¼″×20″ ... **19/-** each



No. **6—SYRINGE,** complete with Bend, Rose and Sprayer. The Sprayer is fitted with Ball Valve for easy filling. Stuffing Box, Drip Sleeve, which prevents user getting wet.

1″×14″ ... **17/-** each 1″×20″ ... **18/6** each
1¼″×20″ ... **22/-** each



No. **7—SYRINGE,** with Rose, Jet and Ball Valve Spray Nozzle and Bend. The Spray Nozzle is fitted with fine hole Spraying Cap, also spare medium and coarse Spraying Caps are supplied. Stuffing Box. Drip Sleeve, which prevents user getting wet.

1″×14″ ... **20/-** each 1″×20″ ... **21/6** each
1¼″×20″ ... **25/-** each

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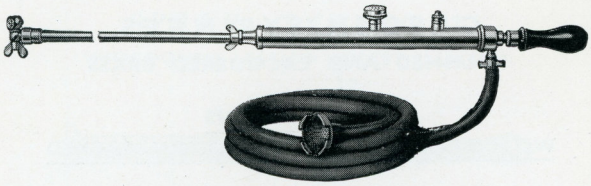
FOREMOST IN 1865 **MYSTO** STILL THE BEST

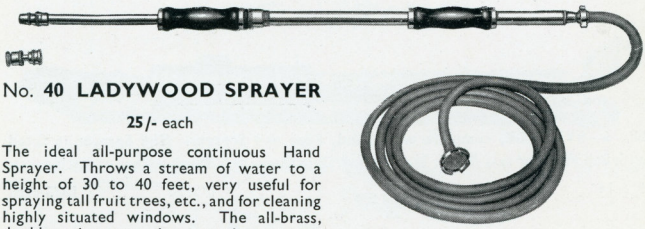
SELF-SUPPLYING HAND SPRAYERS



NIPPY SELF-SUPPLYING SPRAYER

Invaluable for destroying Green Fly and other insect pests, for disinfecting Dogs and other animals, for destroying insect pests in poultry pens, etc., and can also be used for Spraying Stock against foot-and-mouth disease; polished brass 12″×1″ Barrel, complete with 6ft. Rubber Hose and Ball Valve Suction ; Rose, Jet, and movable Swivel Spray Nozzle—all of which can be used with or without the 13½″ extension lance supplied.

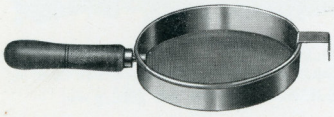
Complete, **18/3** each



No. 40 LADYWOOD SPRAYER

25/- each

The ideal all-purpose continuous Hand Sprayer. Throws a stream of water to a height of 30 to 40 feet, very useful for spraying tall fruit trees, etc., and for cleaning highly situated windows. The all-brass, double-action pump gives a continuous spray and has a lacquered barrel, ¾″×18″, with fixed jet, also detachable spray nozzle and plug, one uncloggable needle limewashing nozzle and 10ft. Hose.



BUCKET STRAINER ... 4/6 each. **12″ BENT LANCE** ... each 3/6

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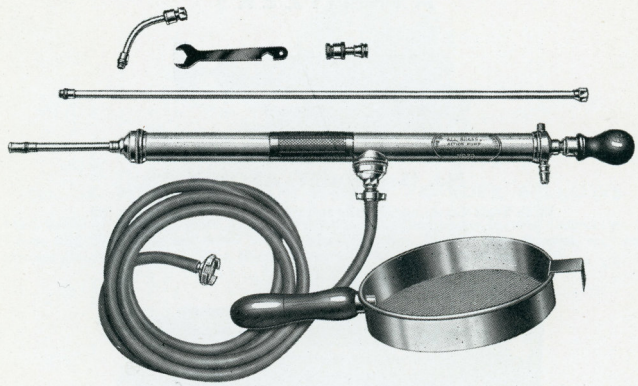
FOREMOST IN 1865 **MYSTO** STILL THE BEST.

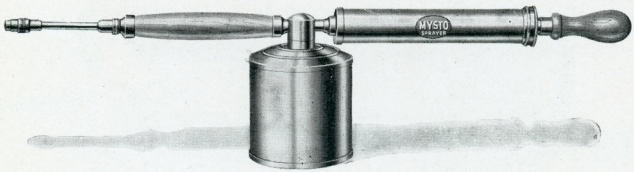
HAND SPRAYING OUTFIT



No. 39—GEM SPRAYING OUTFIT

For Spraying Fruit Trees, destroying Green Fly, Limewashing, Disinfecting, and spraying Creosote. Outfit comprises : All-brass Spray Pump, Barrel $1\frac{1}{4}'' \times 18''$, giving continuous spray ; one Limewashing and one Spraying Nozzle ; also Plain Jet ; 10ft. of good quality Hose with Strainer ; 2ft. polished and lacquered Brass Lance, Swivel Connection Angle Bend ; All-metal Strainer and Spanner.

Complete, **40/-** each



No. 144—ALL-BRASS CONTINUOUS SPRAYER

Strongly made and very useful, with Nozzle giving extremely fine atomization. Capacity $1\frac{1}{2}$ pints.

Polished Brass ... ... **22/6** each
Brass, Nickel-plated ... ... **27/6** ,,

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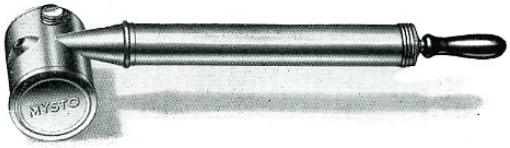
FOREMOST IN 1865 **MYSTO** STILL THE BEST

ATOMIZERS

No. 15—MIDGET ATOMIZER

With Brass Container, ideally suitable for that odd spraying job.

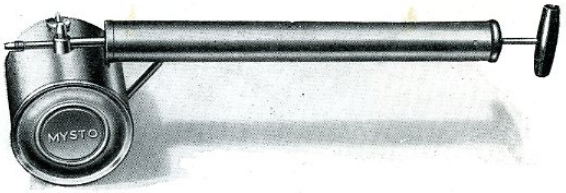
3/- each



No. 9/1—STANDARD PATTERN ATOMIZER

Capacity, 1 pint

Plain Tinplate	33/- doz.
Painted Green	39/- ,,



No. 19—CONTINUOUS SPRAY ATOMIZER

A well made continuous Spray Atomizer. Capacity 1½ pints.

Plain Tinplate	9/6 each
Painted	10/6 ,,

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. 13—MYSTO JUNIOR INSECT POWDER BELLOWS

Most useful for spraying Rose Trees, Carnations and other plants for the destruction of Green and Black Flies and other insect pests, also Fleas, Moths, Bugs, Beetles, etc., and general disinfectant work. Can be made into a fumigator for Beehives.

14/- doz.

No. 18—MYSTO MINOR POWDER DISTRIBUTOR

Pump Barrel of strong tinned steel with detachable Container. Cellulose enamelled.

2-lb size ... ... **45/-** doz.

No. 51—WEED ERADICATOR

For destroying weeds without injury to surrounding plants or greens. By stabbing point into weed, enough liquid is introduced to destroy it. A screw-on cap protects the point when not in use. Cannot become clogged with earth.

Brass Steel Bronzed Finish ... ... **14/-** each

W T French

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

BRASS SPRAY NOZZLES

Giving variations of spray from fine to coarse, straight jet and shut-off.

No. **603**—**LIGHT PATTERN SPRAY NOZZLE NON-DETACHABLE UNION**

½″ ... **33/-** doz. ⅝″ ... **34/6** doz. ¾″ ... **36/-** doz.

No. **602A**—**MEDIUM PATTERN SPRAY NOZZLE WITH DETACHABLE UNION**

With ½″ union ... **47/-** doz.
,, ⅝″ ,, ... **49/-** ,,
With ¾″ union ... **51/-** doz.
,, 1″ ,, ... **54/-** ,,

With taper union for ½″, ⅝″ or ¾″ hose ... **52/6** doz.

No. **602**—**HEAVY SPRAY NOZZLE**

With ½″ union ... **54/-** doz.
,, ⅝″ ,, ... **55/6** ,,
With ¾″ union ... **57/-** doz.
,, 1″ ,, ... **60/-** ,,

With taper union for ½″, ⅝″ or ¾″ hose ... **58/6** doz.

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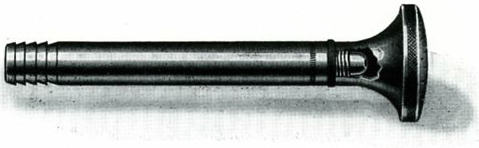
FOREMOST IN 1865 **MYSTO** STILL THE BEST

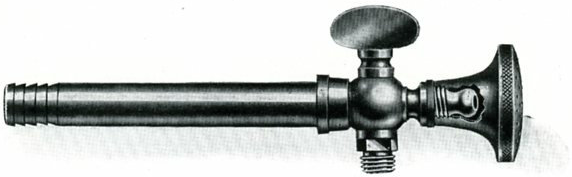


No. **610A—BRANCH PIPE**

With detachable Rose and fixed Jet

$\frac{1}{2}''$ ... **22/6** doz. $\frac{3}{4}''$ ... **37/6** doz.

$\frac{5}{8}''$ ... **28/-** doz.



No. **612A—POLISHED BRANCH PIPE**

With polished Stop Tap and fixed Jet and detachable Rose, with screwed plug to carry same. (Registered Design).

$\frac{1}{2}''$ ... **60/-** doz. $\frac{3}{4}''$ ... **95/-** doz.

$\frac{5}{8}''$ ... **75/-** doz.

No. **500**

THE " MYSTO " HOSE BRACKET

For conveniently and quickly storing away Rubber Hose. Made to take 120ft. of $\frac{1}{2}''$ Hose.

2/9 each

No. **1**

HOSE REEL

Will take 100ft. of $\frac{1}{2}''$ Hose. Painted.

11/3 each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

BRASS HOSE FITTINGS

No. **617**

THE "MYSTO" NON-SLIP TAP UNION

With lock device, snugly fits ½", ⅝" or ¾" taps, and can always be left attached to tap as it does not affect the domestic use of the tap. The nozzle is screwed with ¾" iron pipe thread to take cap and bend, to enable ½", ⅝" or ¾" hose to be attached.

2/6 each

No. **606**

THE "MYSTO" CAP & LINING

For screwing on to the Non-slip Tap Union, cap screwed ¾" iron pipe.

½" Hose	...	**1/-** each
⅝" ,,	...	**1/2** ,,
¾" ,,	...	**1/6** ,,

No. **614B**

BRASS BURNISHED ROYLE'S TAP UNIONS

Complete with Rubber Cones

Size of Tap	Size of Hose	No. 614B Plain	SPARE RUBBER CONES
½"	½"	**17/6** doz.	**1/6** doz.
⅝"	⅝"	**26/3** ,,	**2/-** ,,
¾"	¾"	**33/9** ,,	**2/6** ,,
1"	1"	**96/-** ,,	**4/-** ,,
⅝"	½"	**26/3** ,,	**2/-** ,,
¾"	⅝"	**33/9** ,,	**2/6** ,,
¾"	1"	**33/9** ,,	**2/6** ,,
1"	¾"	**96/-** ,,	**4/-** ,,

No. **614C—ROYLE'S TAP UNION WITH CHAINS** ... **5/-** doz. extra.

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

BRASS HOSE FITTINGS

No. **604**—**TAP UNION**
Standard Pattern. To Solder

Size of Hose	Union Screwed	Price
½″	⅝″ iron	19/- doz.
⅝″	¾″ ,,	22/- ,,
¾″	⅞″ ,,	28/6 ,,
1″	1⅛″ ,,	70/- ,,

No. **605**—**HOSE UNION**
Standard Pattern

Size of Hose	Union Screwed	Complete Union No. 605	Cap and Lining only No. 605A
	iron	dozen	dozen
½″	⅝″	19/-	12/-
⅝″	¾″	22/-	14/-
¾″	⅞″	28/6	18/-
1″	1⅛″	70/-	46/-
1¼″	1¼″	105/-	70/-
1½″	1½″	144/-	96/-
2″	2″	210/-	140/-

No. **601**—**PLIERS**
For use with Hose Wires
15/- per dozen pairs

No. **620**—**HEAVY PATTERN**
Complete Hose Union
½″ Hose—Union Screwed ¾″ iron 24/- doz.
⅝″ ,, ,, ,, 1″ ,, 42/- ,,

No. **700**—**HOSE FERRULES**

½″×2″	42/-	gross
⅝″×2″	52/-	,,
¾″×2″	68/-	,,
1″×2½″	96/-	,,

No. **613**—**FLEXIBLE BRASS HOSE CLIP**
For securing Fittings in Hose

Size of Clip	For use with Red Garden and All-Rubber Hose	For use with 2-ply long length Hose	Price per Gross
Diam.	Diam.	Diam.	
½″	—	—	36/-
⅝″	⅝″	—	38/-
¾″	¾″	—	39/6
⅞″	⅞″	1″	41/6
1″	1″	1⅛″	43/-
1⅛″	—	¾″	45/-
1¼″	1⅛″	—	46/6
1⅜″	—	—	48/6
1½″	1¼″	—	50/-
1⅝″	—	—	52/-
1¾″	1½″	—	55/-
1⅞″	—	—	57/6
2″	—	—	60/6

No. **600**—**WIRES FOR BINDING**
Sherardised Steel

Size 3″	...	14/- gross	Size 4″	...	16/6 gross
,, 3⅛″	...	14/6 ,,	,, 4⅛″	...	17/- ,,
,, 3⅜″	...	15/- ,,	,, 4⅜″	...	17/6 ,,
,, 3¾″	...	16/- ,,	,, 4¾″	...	18/- ,,

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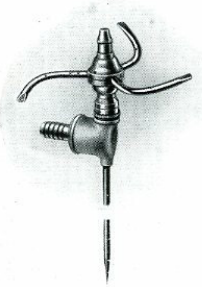
FOREMOST IN 1865 **MYSTO** STILL THE BEST

REVOLVING LAWN SPRINKLERS



No. **589**

DEW SPRINKLER

This well-known pattern needs no recommendation. Nickel-plated Brass with Iron Spike. Union for ½" Hose.

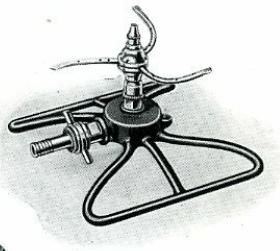
9/6 each

No. **593**

SLED SPRINKLER

Nickel-plated Brass Head on Malleable Iron Sled Base. With connection for ½" Hose. Will throw a spray 20 to 30 feet in diameter.

13/6 each

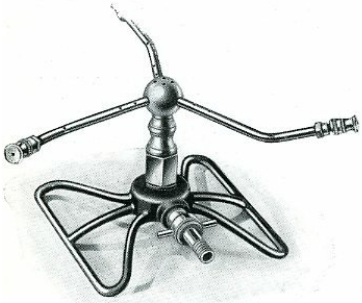


No. **592**

DUPLEX SPRINKLER

With Adjustable Spray Nozzles. Spray covers an area of well over 50ft. in diameter. Arms mounted on Ball-bearing Head with Malleable Iron Base. Complete with Hose Coupling for ½" Hose.

20/- each



No. **594**

TRIPLEX SPRINKLER

With Adjustable Spray Nozzles. Spray covers an area of well over 50ft. in diameter. Arms mounted on Ball-bearing Head, with Malleable Iron Base. Complete with Hose Coupling for ½" Hose.

22/6 each

Connections for ⅝" or ¾" Hose can be supplied when specified

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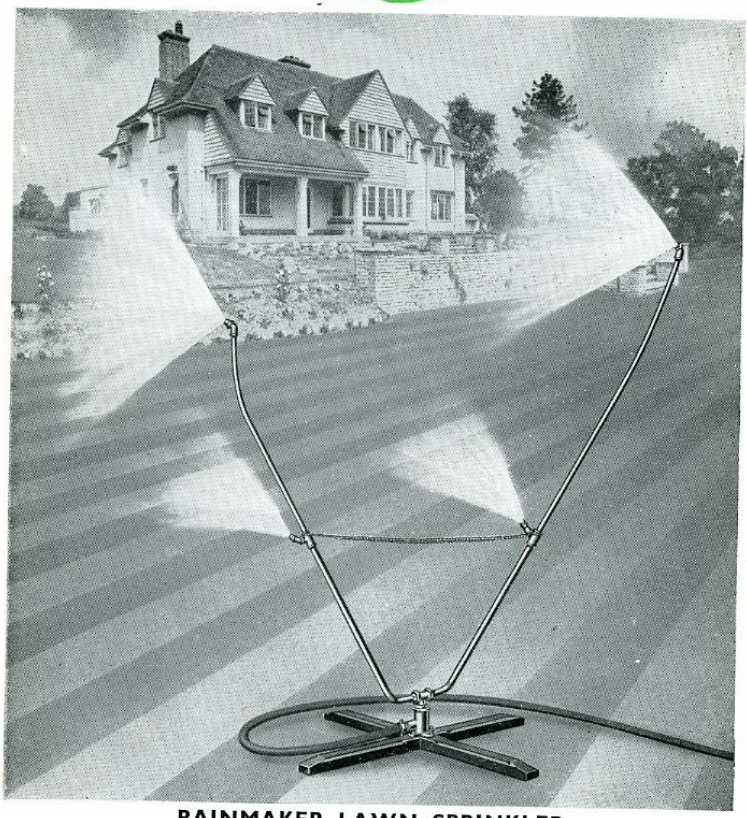
FOREMOST IN 1865 **MYSTO** STILL THE BEST



RAINMAKER LAWN SPRINKLER

An ideal Frictionless Sprinkler for watering large areas such as Parks, Bowling Greens, Golf Greens, and Tennis Courts. The Sprinkler revolves in a clock-wise direction—by the water pressure—throwing a fine rain-like spray over an extra large area. The Rainmaker may be left working all hours, if necessary, in one spot without the centre becoming any wetter than the outer areas. Full directions for assembly and use accompany every Sprinkler, and providing these are followed and the Nozzles and Jets are free from obstruction, THERE IS NOTHING TO GET OUT-OF-ORDER.

No. **1**—For very low pressure ... ... **£5 5 0** each
No. **2**—For standard water pressure of 20 lbs. and upwards ... ... **£6 0 0** ,,
(No. 2 is recommended for normal requirements)

Each Sprinkler is supplied with two coarse Nozzles, two fine Nozzles, two blank Caps, Spanner, four Angle Bends and Tool for clearing out slots and nozzles.
Spare Spray Nozzles or Jets ... **2/3** each

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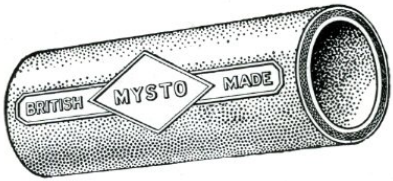
FOREMOST IN 1865 **MYSTO** STILL THE BEST



"MYSTO" RED WRAPPED GARDEN HOSE

Supplied in 60ft. Coils.
½" in 1-ply, 2-ply, and 3-ply.
⅝", ¾" and 1" in 2-ply and 3-ply.
Prices on application.
Cut lengths 10% extra.

"MYSTO" ALL-RUBBER CORRUGATED HOSE

Supplied in 60ft. and 240ft. Coils.
Sizes ½", ⅝", ¾" and 1"
Prices on application.
Cut lengths 10% extra.

"MYSTO" 2-PLY BRAIDED NON-KINK HOSE

Supplied in lengths of 250ft. and 500ft.
Sizes ½", ⅝", ¾" and 1"
Prices on application.
Cut lengths 10% extra.

ALL-RUBBER HOSE

Complete with Fittings on Painted Hose Reel.

No. 1 Set, comprising 60ft. all-rubber Hose, No. 610A Branch Pipe, and No. 614B Royle's Union attached with two No. 613 Hoseclips.

No. 2 Set, comprising 60ft. all-rubber Hose No. 602A variable Spray Nozzle, No. 614B Royle's Union attached with two No. 613 Hoseclips.

Prices on application.

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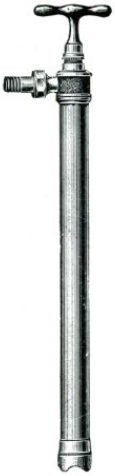
FOREMOST IN 1865 **MYSTO** STILL THE BEST



No. **97**

BRASS BILGE PUMPS

All-brass Pump, polished and lacquered and with Detachable Suctions.

Complete with Union for India Rubber Hose.

Size			Each
1″ × 18″	½″	Union ...	**20/-**
1¼″ × 18″	¾″	,, ...	**24/-**
1⅜″ × 20″	¾″	,, ...	**25/6**
1½″ × 20″	1″	,, ...	**29/6**
1½″ × 24″	1″	,, ...	**32/-**

No. **130**

BRASS OIL PUMPS FOR CASKS

Double-Action all-Brass Pump, polished and lacquered, giving continuous flow. Pump has uncloggable solid Brass Ball Valves and is complete with wing nut for fixing in bung-hole of cask.

Size of Barrel,	1″ × 31″	...	**23/6** each
,, ,,	1″ × 43″	...	**25/-** ,,
,, ,,	1¼″ × 31″	...	**36/-** ,,
,, ,,	1¼″ × 43″	...	**39/-** ,,

"TYPHOON" SANITARY AND HYDRAULIC FORCE AND LIFT PUMP

No. **153**

Extra strong and with Iron Handle for holding in position. Polished Brass Barrel, Brass Fittings and Polished Black Cross Handle.

Size, 1½″ × 15″

22/6 each

Complete with Rubber.

Spare Rubbers, only **6/-** each

No. **151**

DRIP TRAY

For Oil Pumps.

1″	...	**3/9** each
1¼″	...	**4/6** ,,

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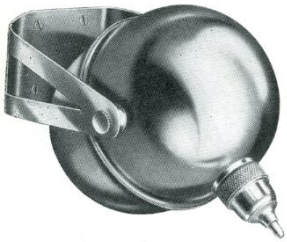
FOREMOST IN 1865 **MYSTO** STILL THE BEST



SOAP DISPENSER

The bowl is made of Copper tinned inside, fitted with brass nozzle and bracket. Heavily Chromium Plated.

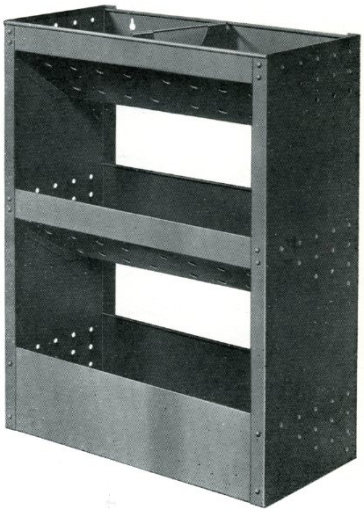
17/6 each

VEGETABLE RACK

Heavily built Rack of Steel painted green. Ideally suitable for the average family.

22″ High, 16½″ Wide, 8″ Deep.

12/6 each



W T French

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SECTION 2

SPRAYING MACHINES

For

AGRICULTURAL SPRAYING
LIMEWASHING & ANTI-MALARIAL
PURPOSES . PAINT SPRAYERS

SALTING
SYRINGES AND PUMPS

VETERINARY & SURGICAL
SYRINGES AND PUMPS

SUNDRIES

W T French

Appendix 34 (23) - Catalogue 101/48

FOREMOST IN 1865 **MYSTO** STILL THE BEST

PNEUMATIC SPRAYER

No. **6**

PNEUMATIC HAND SPRAYER

Brass Container, with polished and lacquered Brass Pump and Fittings. Capacity two pints. Screw-down valve control and two spray Nozzles.

17/6 each

With standard Spraying Lance and Shut-off Tap, as our other Hand models.

22/6 each

No. **7**

PATENT VAPORIZER

Highly polished and Nickel-plated. An entirely new design, which can be completely dismantled by removing the Jet and Lock-nut. This facilitates cleaning, which is a necessity with this type of Sprayer owing to the corrosive nature of many disinfectants. All Valves are of ample dimensions and easily accessible.

9″ ... **25/-** 12″ ... **26/6** 15″ ... **28/-**

W T French

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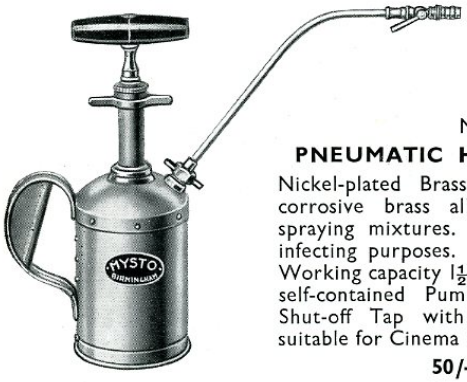
FOREMOST IN 1865 **MYSTO** STILL THE BEST

PNEUMATIC SPRAYERS



No. **1**

PNEUMATIC HAND SPRAYER

Nickel-plated Brass Container of non-corrosive brass alloy, suitable for all spraying mixtures. Most useful for disinfecting purposes. Full capacity 2 pints. Working capacity 1½ pints. Complete with self-contained Pump, Spray Lance and Shut-off Tap with extra fine sprayer, suitable for Cinema use.

50/- each

No. **5**

PNEUMATIC HAND SPRAYER

Container is of polished Copper, the Pump and fittings being of Brass. Filler Cap is fitted with Automatic Safety Valve, Spray Lance and Shut-off Tap. The handle being tubular, it is a simple matter to fix to a pole or Bamboo Lance for spraying grapes or tall plants, beyond the reach of the ordinary sprayer.

4-pint size, **50/-** each
6-pint size, **57/6** ,,

W T French

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

KNAPSACK
PNEUMATIC SPRAYER

No. 155—PNEUMATIC SPRAYER

Pump and fittings of non-corrosive brass alloy, suitable for all spraying mixtures. Complete with 42″ best ⅜″ bore Spraying Hose, Lance with Automatic Release, two Nozzles, Pressure Gauge, one Webbing and Leather Shoulder Strap and self-contained removable pump.

1-gallon	Brass Container	**71/6**
	Galvanized Steel Container	**66/-**
2-gallon	Brass Container	**81/6**
	Galvanized Steel Container	**75/-**
3-gallon	Brass Container	**92/-**
	Galvanized Steel Container	**84/6**

W T French

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

KNAPSACK PNEUMATIC SPRAYER

Heavy Pattern

Container made of non-corrosive brass alloy, suitable for corrosive liquids. Fitted with Tap. Automatic Release, 42" $\frac{3}{8}$" bore high pressure Spraying Hose, Single Swivel Needle Spring Nozzle, Pressure Gauge, Shoulder Straps, self-contained Pump, Spanner and Strainer for filling.

No.	Tank Galls.	Working Galls.	Weight Lbs.	Each
7	$1\frac{1}{2}$	1	$10\frac{3}{4}$	**130/-**
8	$2\frac{3}{4}$	2	$13\frac{3}{4}$	**155/-**
9	4	3	17	**175/-**
10	5	4	$18\frac{1}{2}$	**195/-**

W T French

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FOREMOST IN 1865. **MYSTO** STILL THE BEST

No. 12

POWDER BLOWER

Reg. No. 841420.

Steel enamelled green, Leather Bellows, Wood Hand Grips and Web Shoulder Strap with brass fittings. Alternative outlets are provided—one of 90° for dusting small fruit trees, raspberries, brassica crops, etc., and the other of 135° for dusting ground crops. A Control Valve regulates output volume. Capacity 8 to 12 lbs.

45/- each

No. **41 KNAPSACK SPRAYING OUTFIT**

Three-gallon galvanized Container, complete with Strainer, two Leather and Webbing Shoulder Straps and necessary fittings attaching Ladywood Spray Pump, as illustrated. **85/-** each

W T French

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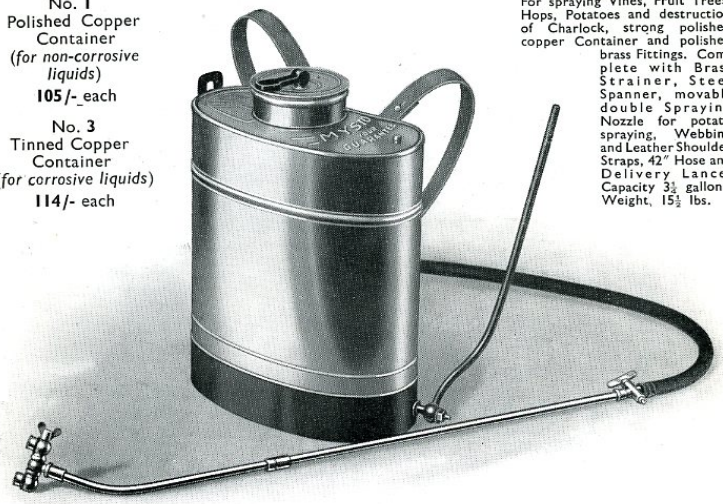
FOREMOST IN 1865 **MYSTO** STILL THE BEST

KNAPSACK SPRAYER

No. 1
Polished Copper
Container
(for non-corrosive liquids)
105/- each

No. 3
Tinned Copper
Container
(for corrosive liquids)
114/- each

For spraying Vines, Fruit Trees, Hops, Potatoes and destruction of Charlock, strong polished copper Container and polished brass Fittings. Complete with Brass Strainer, Steel Spanner, movable double Spraying Nozzle for potato spraying, Webbing and Leather Shoulder Straps, 42″ Hose and Delivery Lance. Capacity 3½ gallons. Weight, 15½ lbs.

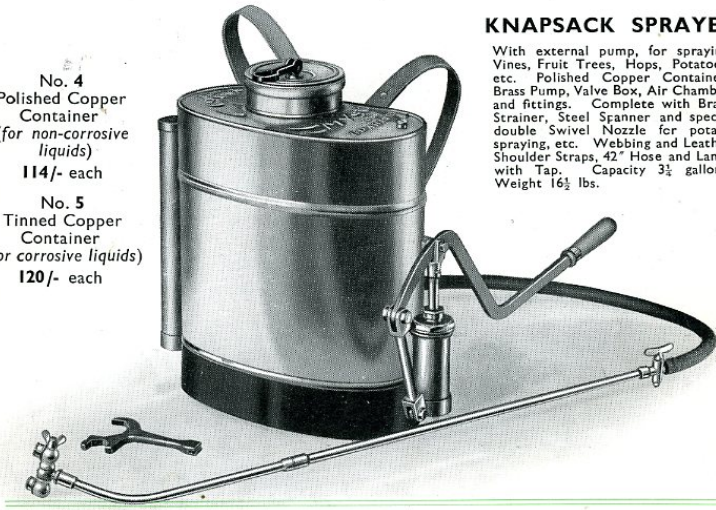


KNAPSACK SPRAYER

No. 4
Polished Copper
Container
(for non-corrosive liquids)
114/- each

No. 5
Tinned Copper
Container
(for corrosive liquids)
120/- each

With external pump, for spraying Vines, Fruit Trees, Hops, Potatoes, etc. Polished Copper Container. Brass Pump, Valve Box, Air Chamber and fittings. Complete with Brass Strainer, Steel Spanner and special double Swivel Nozzle for potato spraying, etc. Webbing and Leather Shoulder Straps, 42″ Hose and Lance with Tap. Capacity 3½ gallons. Weight 16½ lbs.



W T French

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

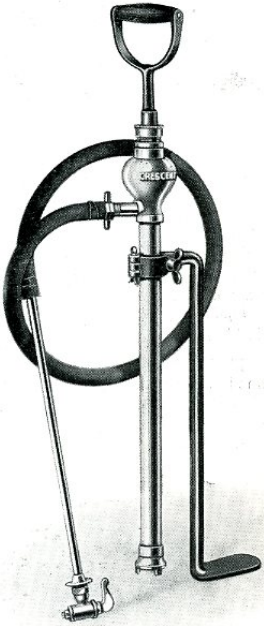
No. **35**

SPRAY PUMP

Strong double-action Pump, fitted with new improved air chamber, adjustable wrought iron Stirrup with malleable iron Foot-piece. 42″ of $\frac{3}{8}$″ bore Spraying Hose, 15″ brass Delivery Lance with limewashing Nozzle at an angle of 45° to facilitate the spraying of foliage and underneath side of leaves, etc. Two caps supplied to give fine or coarse spray. Also supplied with a straight Jet for window washing, car cleaning, etc.

Approx. nett weight $5\frac{1}{2}$ lbs.

32/6 each



No. **33**

CRESCENT SPRAY PUMP

Heavy Popular Pattern.

Brass Pump with strong cast malleable iron adjustable Stirrup Foot. 42″ of $\frac{3}{8}$″ bore Spraying Hose, Brass Lance and Bordeaux Nozzle.

Approx. nett weight $7\frac{1}{2}$ lbs.

40/- each

W T French

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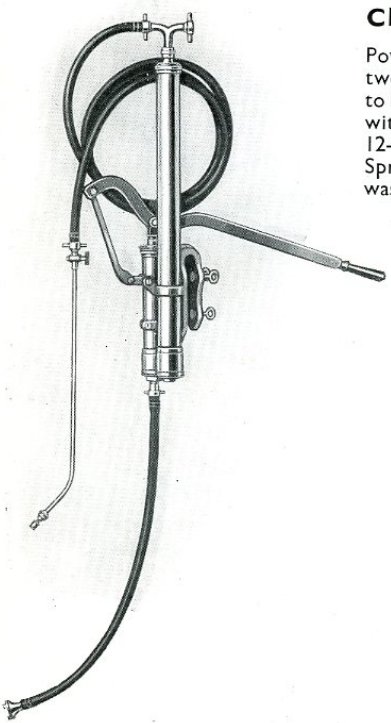
FOREMOST IN 1865 **MYSTO** STILL THE BEST

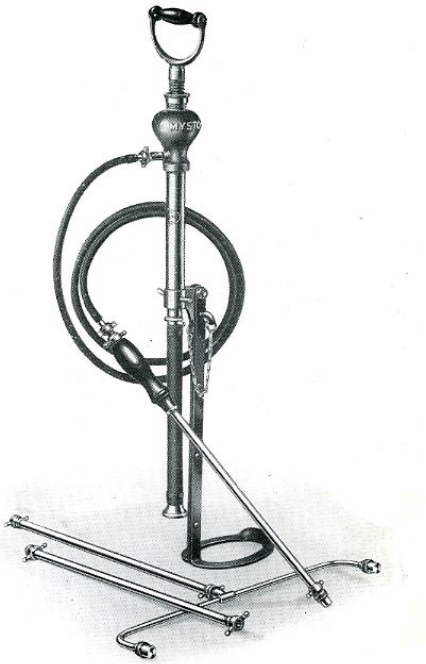


CHAMPION BARREL PUMP

Powerful double-action Brass Pump with two-way swivel outlet. Ready for fixing to barrel or similar container. Complete with 3-ft. ½-in. bore Suction Hose, 12-ft. ½-in. bore Delivery Hose, Brass Spraying Arm with Stop-cock, one Lime-washing Nozzle and one Spraying Nozzle.

No. **27** 2″ Barrel size.

£10 10 0 each



No. **401**

MACKENZIE SPRAY PUMP

For disinfecting purposes. Strong Double-Action Brass Pump, Wrought Iron Folding Stirrup Foot, 6-ft. $\frac{3}{16}$-in. bore Delivery Hose, three Brass Spraying Arms and Double Outlet Branch, and three Spraying Nozzles.

60/- each

W T French

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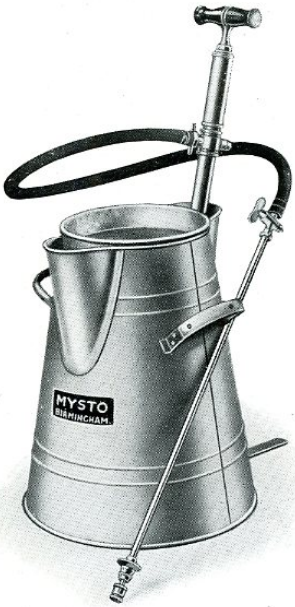
FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. **0**

UTILITY

A very convenient model. Powerful double-action Brass Pump, 4-gallon container, 6-ft. of $\frac{3}{8}$" bore Hose, 24" Brass Lance with Stop-cock, Unclogable Limewashing Nozzle and Spraying Nozzle, also all-metal Strainer with Handle.

65/- each



No. **A.1**

NON-SPLASH

At the neck of this tapered side Container a perforated Brass Strainer is tightly fitted. This obviates the danger of the spraying mixture splashing when being carried. Strong double-action Brass Pump mounted in 4-gallon container. 6-ft. of $\frac{3}{8}$" bore Hose, Lance with Stop-cock and uncloggable Limewashing Nozzle.

75/- each

W T French

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

THE SWIFT

Extra powerful double-action Brass Pump with Air Chamber, thus increasing the force. 6-ft. of best high pressure ½″ bore Hose, polished brass Spraying Arm with Stop-cock, one Limewashing and one Spraying Nozzle, complete in strong galvanized iron Container. Capacity 4 gallons. Strong perforated all-brass Strainer.

82/6 each

THE SAMPSON

A powerful double-action Brass Pump with lever and air chamber, 6-ft. of best high pressure ½″ bore Armoured Hose, polished brass Spraying Arm with Stop-cock, one Limewashing and one Spraying Nozzle, complete in strong galvanized Container. Capacity 4 gallons. Strong perforated all-brass Strainer.

97/6 each

W T French

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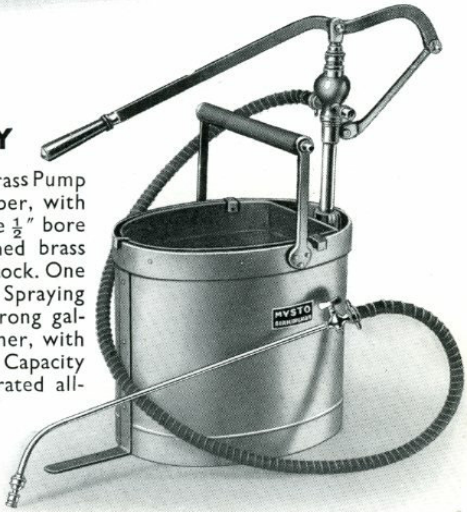
FOREMOST IN 1865. **MYSTO** STILL THE BEST

THE BAILIFF

This powerful double-action brass Pump is fitted with lever and air chamber, thus increasing the force. 6-ft. of the best high pressure ½" bore Armoured Hose, polished brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. Complete in strong galvanized iron Container. Capacity 6 gallons. Strong perforated all-brass Strainer.

105/- each



THE COUNTY

Powerful double-action brass Pump with lever and air chamber, with 6-ft. of best high pressure ½" bore Armoured Hose. Polished brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. Complete in strong galvanized oval iron Container, with hardwood turned handle. Capacity 6 gallons. Strong perforated all-brass Strainer.

120/- each

W T French

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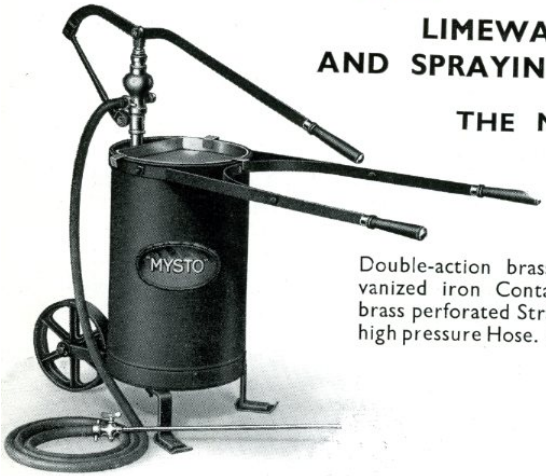
FOREMOST IN 1865 **MYSTO** STILL THE BEST

LIMEWASHING AND SPRAYING MACHINES



THE NURSERYMAN

6 Gallon

Double-action brass Pump. Sturdy galvanized iron Container with strong all-brass perforated Strainer. 10-ft. of ½" bore high pressure Hose. Polished brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. 9" diameter Wheel with wide face.

£8 10 0

THE WINCHESTER

10 Gallon

Powerful double-action brass Pump with 10-ft. best high pressure ½" bore Hose. Polished brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. Strong galvanized iron Container, with strong perforated all-brass Strainer. 9" diameter Wheel with wide face.

£9 10 0

Either of the above can be fitted with Solid Rubber Tyre at an extra cost of 10/-

W T French

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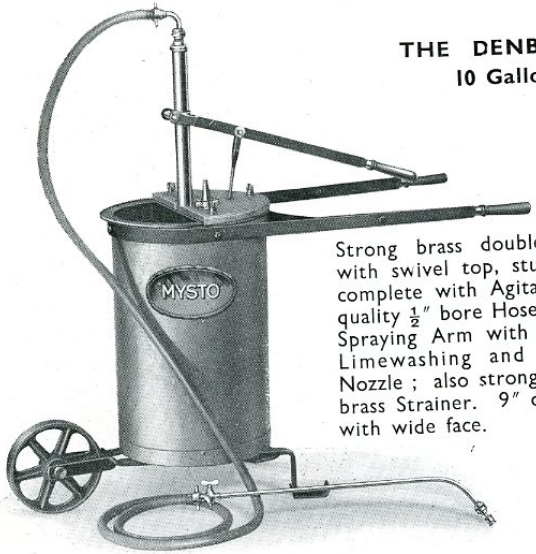
FOREMOST IN 1865 **MYSTO** STILL THE BEST

THE WINCHESTER-DE-LUXE
15 Gallon

A powerful double-action brass Pump with 10-ft. of best high pressure ½" bore Hose. Heavy gauge rectangular Container, with strong perforated all-brass Strainer, polished brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. 9" diameter Wheel with wide face.

£11 0 0



THE DENBEIGH
10 Gallon

Strong brass double-action Pump, with swivel top, sturdy Container, complete with Agitator, 10-ft. best quality ½" bore Hose, polished brass Spraying Arm with Stop-cock, one Limewashing and one Spraying Nozzle ; also strong perforated all-brass Strainer. 9" diameter Wheel with wide face.

£13 0 0

Either of the above can be fitted with a solid Rubber Tyre at an Extra Cost of 10/-.

W T French

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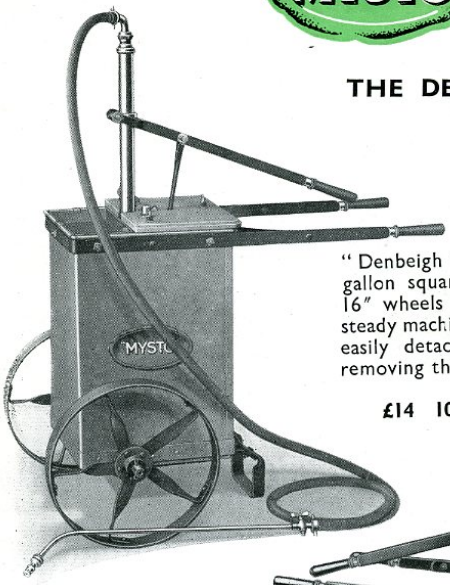
FOREMOST IN 1865 **MYSTO** STILL THE BEST

THE DENBEIGH-DE-LUXE

15 Gallon

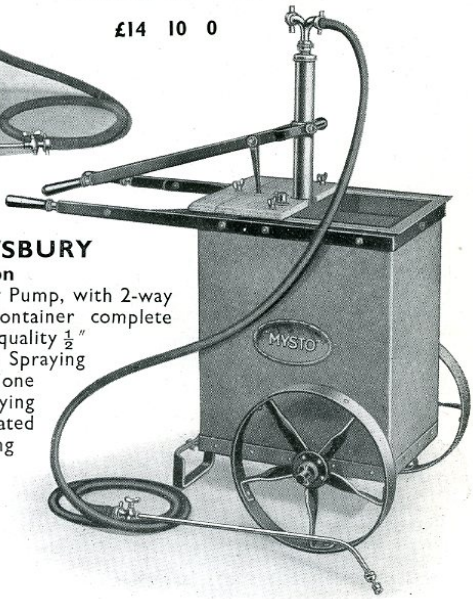


A very handy and efficient machine. It is similar to the "Denbeigh", but with a strong 15-gallon square Container, Strong Axle 16" wheels with wide faces. A very steady machine on rough ground. Pump easily detachable from Container by removing three wing nuts.

£14 10 0

THE SHREWSBURY

18 Gallon



Very powerful 2" capacity Pump, with 2-way swivel outlet. Strong Container complete with Agitator, 12-ft. best quality ½" bore Hose, polished brass Spraying Arm with Stop-cock, one Limewashing and one Spraying Nozzle; also strong perforated all-brass Strainer. Strong axle, 16" wheels with wide faces. Pump can be used efficiently, if required, with two lengths of Delivery Hose. Pump easily detached by removing three wing nuts.

£18 0 0

Either of the above can be fitted with Pneumatic Tyres 16" × 4" at an extra cost of **£3 0 0**.

Additional 12ft. length of Hose, complete with Unions, Brass Spraying Arm with Stopcock, one Limewashing and one Spraying Nozzle, **28/6**.

W T French

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

DENBIGH-SHREWSBURY ACID SPRAYER

The outfit comprises : A strong lead-coated Steel Tank lined with special acid-resisting paint—approximate capacity 12 gallons—this is mounted on a sturdy axle with 16″ wrought-iron wheels. The steel handles have wooden grips, and a strong bar-type ground rest keeps the apparatus steady when pumping is in progress. The Pump is securely housed inside Tank (but easily detached by removing three wing nuts), it is a very powerful 2″ diameter pump with two-way swivel outlet. 30ft. of $\frac{1}{4}$″ delivery Hose with 42″ Lance and 3-nozzle Broom of 2ft. span. Tank is enclosed with removable lid. In addition one 7ft. length of Suction Hose and one 7ft. length of $\frac{1}{2}$″ Delivery Hose are provided for pumping concentrated acid from carboy into tub of water.

As illustrated (less Carboy and Barrel) ... **£20 0 0**

Can be fitted with Pneumatic Tyres, 16″×4″, at an extra cost of **£3 0 0**

W T French

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

LIMEWASHING AND SPRAYING MACHINE ACCESSORIES

BAMBOO EXTENSION LANCE

No. **113** 6′ 6″ ... **32/-** each
No. **113A** 8′ 0″ ... **35/-** ,,
No. **114** 10′ 6″ ... **38/-** each
No. **115** 13′ 0″ ... **42/-** ,,

½″ **CAP AND LINING** 1/6 each.

No. **151** **PRESSURE GAUGE** 8/- each.

No. **68** **SINGLE SWIVEL NOZZLE** 6/- each.

No. **69** **DOUBLE SWIVEL NOZZLE** 7/- each.

No. **78** **COMBINED JET & BORDEAUX** or Crescent Spraying Nozzle 6/- each.

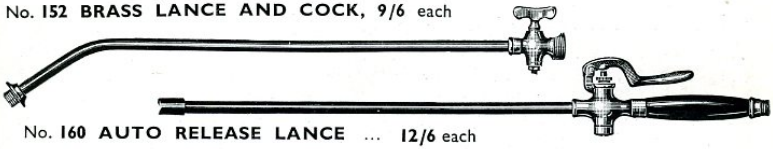
No. **75** **SPRAYING NOZZLE** 3/6 each.

No. **76** **UNCLOGGABLE LIMEWASHING NOZZLE** 5/- each.

No. **150** **DISC NOZZLE** 6/- each.

No. **68K** **SINGLE SWIVEL NEEDLE SPRING NOZZLE** 6/- each.

No. **152** **BRASS LANCE AND COCK**, 9/6 each



No. **160** **AUTO RELEASE LANCE** ... **12/6** each

No. **161** **3-NOZZLE BROOMHEAD**
Made of Cast Aluminium. The 3 nozzles are adjustable in five positions.
27/6 each

"MYSTO" HIGH-PRESSURE SPRAY GUN

Reeded Brass Lance with Rubber Sleeve. Control and regulation of spray is effected by a turn of wood grip.

No. **162** 2ft. Lance ... **45/-** each. No. **163** 3ft. Lance ... **47/6** each

SPRAYING MACHINE QUALITY HOSE

⅜″ and ½″ and ½″ Armoured ... ... Prices on application.

WHEN ORDERING ABOVE—Please specify Model for which spare parts are required

W T French

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

HANDYMAN MINOR PAINT SPRAYER

A really useful apparatus to have in the home. It comprises a powerful Brass Hand Pump fitted into a strong Air Storage Cylinder with Pressure Gauge, 6ft. of Rubber Hose, Spray Pistol with Trigger Air Control, and three Glass Paint Containers with air-tight lids.

Complete as illustrated ... **60/-** each

Additional Paint Containers **14/-** dozen extra

HANDYMAN PAINT SPRAYER

This model is similar to the "Minor", but has a powerful Brass Foot Pump, which is easier to work than a hand pump. This outfit will give long and excellent service.

Complete as illustrated, **75/-** each.

Additional Paint Containers, **14/-** dozen extra.

W T French

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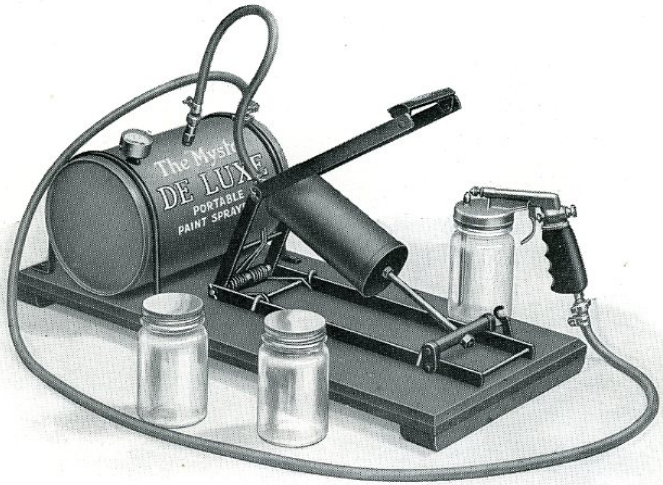
FOREMOST IN 1865 **MYSTO** STILL THE BEST



HANDYMAN DE-LUXE
PAINT SPRAYER

This is a substantial workmanlike outfit, built to give long, hard and efficient service in the Workshop or Garage. The powerful Brass Foot Pump provides ample air for large jobs. The Air Storage Cylinder is fitted with a Pressure Gauge, also a Non-Return Valve, which obviates any loss of air pressure back through the Pump. The Foot Pump and Air Storage Cylinder are securely fixed to a base board. The Spray Pistol is well-balanced and is fitted with Trigger Air Control. The outfit is complete with 6ft. of good strong rubber Hose and three Glass Paint Containers. These Paint Containers have special screw-on air-tight lids, this enables you to store paint in them, when not in use, for almost any length of time without congealing or wasting.

Complete as illustrated	**90/-** each
Additional Paint Containers	**14/-** dozen extra

W T French

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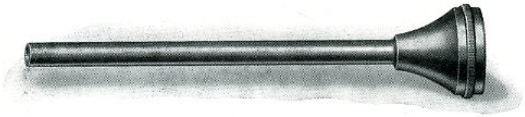
FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. 105—SALTING SYRINGE

Nickel-plated Syringe with Stuffing Box, well finished. Tinned inside. Barrel of Syringe is so made that each end can be screwed off for cleaning purposes. Special Nickel-plated Needle 7″ long supplied, as illustrated, with point to screw off.

½ pint, size 1½″×14″ ... **16/6** each

Spare Needles, **3/-** each



No. 70—NICKEL-PLATED BRASS TUBE OUTLET

½″, ⅝″ and ¾″ sizes Outlet Tubes, straight ... ... **6/-** each

1″, 1¼″ and 1½″ sizes Outlet Tubes, straight ... ... **7/6** ,,

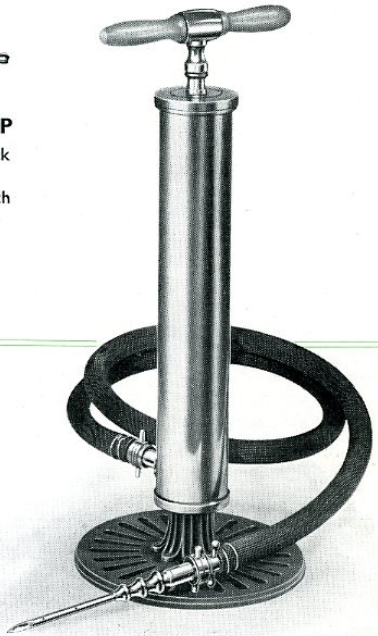
Taper Outlets, **1/6** each extra.

POULTRY SINGEING LAMP

For use with gas. All Brass with Black Wood Handle.

No. **51** ... ... **8/6** each

No. **52** With Bye-pass **10/6** ,,



No. **47**

MYSTO CALF INFLATOR

Strong Brass Pump, size of Barrel 3″×18″, on a substantial Iron Base. Complete with 6ft. of Armoured Hose and a long Needle.

67/6 each

Spare Needles **12/6** each

W T French

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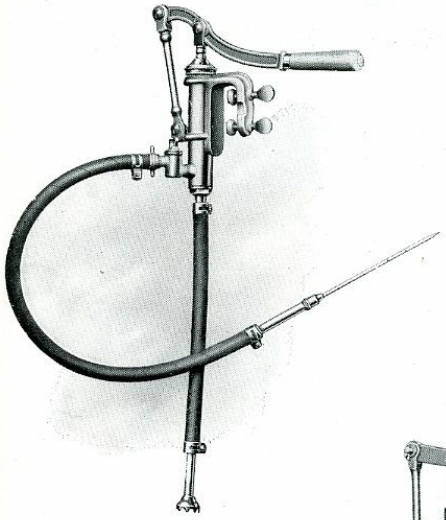
FOREMOST IN 1865 **MYSTO** STILL THE BEST



BUTCHERS' SALTING PUMPS

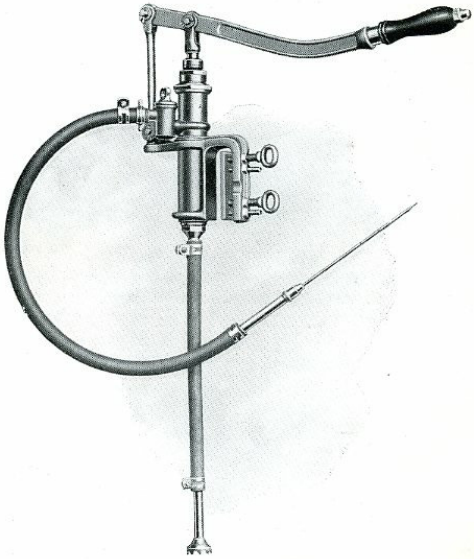
No. **45**

BRINE PUMP

All Brass Pump and Bracket. Nickel-plated 1½″ size with 30″ of ½″ Delivery Hose and 15″ of ½″ Suction Hose. Complete with Suction and Needle.

52/6 each

Spare Needles, **3/-** each



No. **44**

BRINE PUMP

Double-action

1¾″ size with all-brass Metal Piston, Nickel-plated outside, Tinned inside. Complete with 30″ of ½″ Delivery Hose, Needle and 15″ of ½″ Suction Hose.

105/- each

Spare Needles, **3/-** each

W T French

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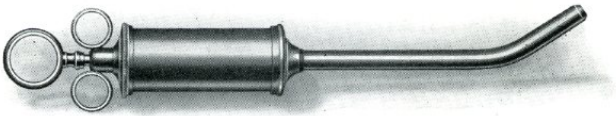
FOREMOST IN 1865 **MYSTO** STILL THE BEST

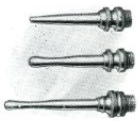
EAR OR WOUND SYRINGES



No. **298**—**PIG DRENCHING OR DOSING SYRINGE**
Nickel-plated Brass
2 oz. 4″ × 1¼″ ... **12/6** each

No. **300 EAR SYRINGE**
Polished Brass with Fine Hole Nozzle. Three Rings and Leather Plunger.
2 oz. 4″ × 1¼″ ... **10/-** each
3 oz. 4″ × 1½″ ... **11/-** each
4 oz. 5½″ × 1½″ ... **12/-** each

No. **302**—**EAR SYRINGE**
Nickel-plated with Fine Hole Nozzle.
Three Rings and All-metal Plunger.
2 oz. 4″ × 1¼″ ... **15/-** each
3 oz. 4″ × 1½″ ... **16/-** each
4 oz. 5½″ × 1½″ ... **17/-** each



SPARE NOZZLES
For Nos. **300** and **302**
12/- doz.

No. **312**—**ANIMAL VACCINE INJECTOR**
For injecting for Blackleg in Sheep
size 4″ × ¾″ ... **8/6** each
Complete with Needle
Spare Needles, **2/-** each

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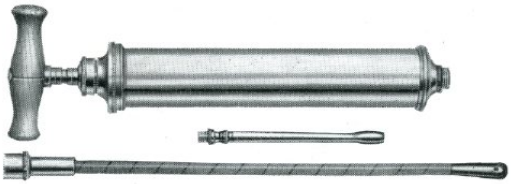
FOREMOST IN 1865 **MYSTO** STILL THE BEST

BRASS VETERINARY SYRINGES FOR SHEEP AND CATTLE

(POLISHED, LACQUERED and TINNED INSIDE)

No. **5**—Fitted with Boxwood T Handle

Size		With 9″ Boxwood Injector	If with 16″ Abortion Pipe instead of Boxwood Injector as illustrated	Extra for additional 5″ Metal Injector
½ pint	1¾″ × 9″	**18/6** each	**21/6** each	**1/6** each
1 pint	2″ × 12″	**22/6** ,,	**25/6** ,,	**1/6** ,,
2 pint	2½″ × 15″	**30/-** ,,	**33/-** ,,	**1/6** ,,



No. **4**—Fitted with Boxwood T Handle and 5″ Metal Injector and 16″ Flexible Abortion Pipe. Self-Oiling Plunger.
½ pint 1¾″×9″ ... **27/6** each. 1 pint 2¼″×11″ ... **33/-** each. 2 pint 2½″×15″ ... **42/-** each.

ABORTION PIPE : Overall length 16″, **6/-** each. **BOXWOOD OR ALUMINIUM INJECTOR :** Overall length, 9″, **3/-** each. **NICKEL-PLATED BRASS BULL PIPE :** Overall length, 5″, **1/6** each.

MILKING TUBES FOR COWS TEATS

Nickel-plated Brass

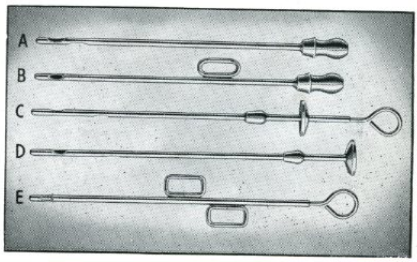
A. Made of $\frac{3}{32}$″ diameter Tube with Mount for $\frac{3}{16}$″ Rubber Tubing. **15/-** doz.

B. Ditto, but with Side Ring. **18/-** doz.

C. Made of $\frac{3}{32}$″ diameter Tube with Cup. **18/-** doz.

D. Ditto, but with End Cup. **18/-** doz.

E. Ditto, with two Side Rings. **18/-** doz.



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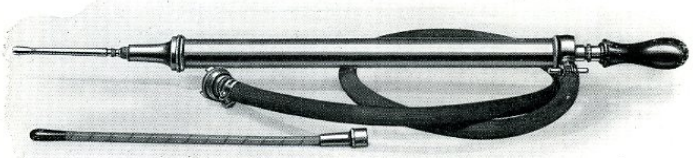
FOREMOST IN 1865 **MYSTO** STILL THE BEST

BRASS VETERINARY SYRINGES

(ALL TINNED INSIDE)

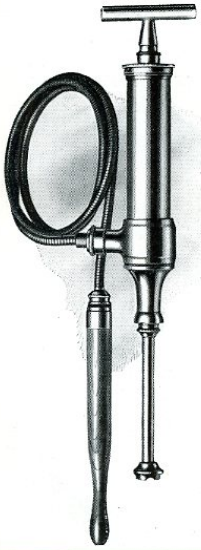


No. **58**

SELF-SUPPLYING CATTLE SYRINGE

Nickel-plated Brass Syringe. Capacity, 1½″×18″ with detachable Nozzle made to take 5″ Metal Injector and flexible Abortion Pipe, complete with 4½-ft. of Suction Hose and Strainer, as illustrated.

42/- each



No. **54—ARMY PATTERN**

As illustrated, with 6-ft. Flexible Copper Tubing, Tinned Inside and with one Boxwood Injector.

75/- each

No. **55—WINTON'S PATTERN**

Tinned Inside and supplied with three different size Boxwood Injectors and with 6-ft ⅜-in. bore Hose.

67/6 each

W T French

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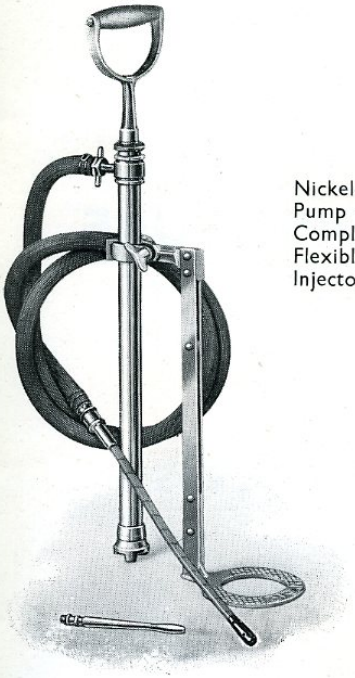
FOREMOST IN 1865 **MYSTO** STILL THE BEST



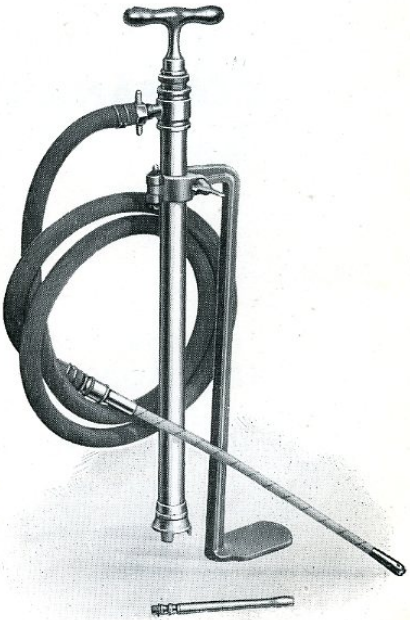
No. **93**

ENEMA PUMP

COLONIAL PATTERN

Nickel-plated Brass Double-Action Pump with 6ft. of $\frac{3}{8}$in. bore Hose. Complete with Malleable Iron Foot, Flexible Abortion Pipe and 5″ Metal Injector.

40/- each



No. **57**

ENEMA PUMP

COLONIAL PATTERN

Double-Action Nickle-plated Brass Pump with 6ft. of $\frac{3}{8}$in. bore Hose. Complete with Malleable Iron Foot, Flexible Abortion Pipe and 5″ Metal Injector.

47/6 each

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Appendix 34 (47) - **Catalogue 101/48**

SECTION 3

HEARTH FURNITURE

COAL BOXES

COMPANION STANDS

W T French

Appendix 34 (48) - Catalogue 101/48

FOREMOST IN 1865 **MYSTO** STILL THE BEST

SQUARE COAL BOX

A Handsome piece of Hearth Furniture in Oxidised Copper, with heavy gauge Inner Container, 10½″ High × 11″ Square fitted with bale handle.

31/- each

ROUND COAL BOX

An attractive, strongly-built Coal Vase in Oxidised Copper finish, with heavy gauge Inner Container, 11″ High × 10″ Dia.. fitted with bale handle.

19/- each

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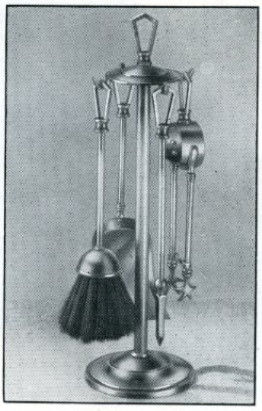
FOREMOST IN 1865. **MYSTO** STILL THE BEST

COMPANION STANDS

KNIGHT IN ARMOUR
Height 22″
No. **2003**

ARISTOCRAT
Height 22″
No. **2000**



A solidly built Companion Stand made of Brass — Height 16½″ overall. Can be supplied in POLISHED BRASS, ANTIQUE BRASS, and ANTIQUE COPPER finishes.

SCOTTIE DOG
Height 16½″
No. **2020**

'ARISTO' SERIES

Design Nos. 2003, 2000, 2020, and 2037 are each complete with Best Quality Poker, Brush, and Tongs and can be supplied in any of the following finishes.

Polished Brass, Antique Brass, Antique Copper, Armour Bright or Oxydised Silver.

Prices on application

THE GOLFER
Height 22″
No. **2037**

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Appendix 35 (2) - Catalogue 101/49

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Appendix 35 (3) - Catalogue 101/49

TERMS OF BUSINESS

CASH TERMS	2½% within thirty days (Home Trade only).
CARRIAGE	All orders of £10 and upwards in value are sent carriage paid, to any address in the United Kingdom.
CASES	Extra at cost, credited in full if returned in good condition within fourteen days.

CONDITIONS OF SALE

All articles illustrated in this list are supplied subject to the following conditions:

That the manufacturer shall not be liable to make good any expenditure, damages *and/or* losses, arising out of any use or dealing with any goods, however such expenditure, damage or loss shall arise, and whether from any defect in the goods or otherwise, the manufacturer's liability being limited to the repair or replacing of such goods.

GOODS RETURNED FOR CREDIT

No goods will be accepted for credit without previous agreement in writing.

PRICES—The Company reserve the right to vary the list prices at any time, and all goods are invoiced at the prices current on the day of delivery. Should the price be increased prior to delivery, the Purchaser has the option of cancelling the order within seven days after being notified of such increase.

THIS CATALOGUE CANCELS ALL PREVIOUS ISSUES, DISCOUNTS AND SPECIAL PRICES QUOTED HITHERTO.

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Appendix 35 (4) - Catalogue 101/49

C. T. HICKLING
45, BROOMFIELD,
ADEL,
LEEDS, 6.

RETAIL PRICE LIST

"MYSTO"

1949
BRASS CATALOGUE No. 101/49

DISCOUNT
33 1/3 %

All Orders of £10 and upwards net value
Carriage Paid.
Packing Cases charged extra at cost.
THIS CATALOGUE CANCELS ALL
PREVIOUS ISSUES & DISCOUNTS

W. T. FRENCH & SON, LTD.
Established 1865
MYSTO WORKS,
BIRMINGHAM 16, ENGLAND.
Cables: "SYRINGES, BIRMINGHAM."
Phone: EDGBASTON 2994/5/6/7.

SALTING SYRINGES AND PUMPS
VETERINARY AND SURGICAL SYRINGES
AND HOSE FITTINGS.

For Domestic Electrical Appliances—
see separate Catalogues.

Contractors to ADMIRALTY, MINISTRY OF SUPPLY and H.M. OFFICE OF WORKS.

CATALOGUE No. 101/49

W T French

Appendix 35 (5) - Catalogue 101/49

FOREMOST IN 1865 **MYSTO** STILL THE BEST

POLISHED BRASS SYRINGES

POLISHED BRASS SYRINGE, strong gauge Detachable Fittings with collar on each end of Barrel.

No. **98/1**
One Rose and one Jet.
1¼″×16″ .. **11/9** each
1½″×18″ .. **13/6** ,,

No. **98/2**
Two Roses and one Jet.
1¼″×16″ .. **13/9** each
1½″×18″ .. **15/9** ,,

BRASS SYRINGE, with cast burnished fittings and Stuffing Box, with a collar on each end of Barrel.

No. **101/1**
One Rose and one Jet
1¼″×16″ .. **15/-** each
1½″×18″ .. **17/3** ,,

No. **101/2**
Two Roses and one Jet
1¼″×16″ .. **17/6** each
1½″×18″ .. **20/-** ,,

No. **0101—OIL OR TALLOW SYRINGE.**

Strongly made of Brass, polished and lacquered, with 4″ Taper Jet—straight or bent.

1″ ×10″ .. **12/-** each
1¼″×12″ .. **15/-** ,,

1½″×14″ .. **17/3** each
1¾″×16″ .. **27/-** ,,

No. **119—BRASS SPRAY SYRINGE,** with movable Fine Sprayer. Complete with Ball Valve for easy filling; also Rose and Jet interchangeable with Sprayer, thus the Syringe can be filled very quickly whichever fitting is in operation.

1¼″×20″ .. **16/6** each.

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

POLISHED BRASS SYRINGES

No. 8—**SYRINGE,** with double leather bucket plunger and fitted with Ball Valve Sprayer with Detachable Nozzle and Drip Ring.
$\frac{7}{8}$″×12″ .. **9/6** each.

No. 9—**SYRINGE,** Fitted with Ball Valve Angle Sprayer, Drip Ring, etc.
$\frac{7}{8}$″×16″ .. **12/6** each.

No. 11—**SYRINGE,** fitted with Bend and Sprayer Nozzle having Valve for quick filling, and Drip Ring.
$\frac{7}{8}$″×16″ .. **13/6** each.

No. 5—**SYRINGE,** complete with Bend and Rose, also Sprayer, which is fitted with Ball Valve for easy filling. Stuffing Box.
1″×14″ .. **20/-** each 1″×20″ .. **22/6** each
$1\frac{1}{4}$″×20″ .. **26/6** ,,

HEAVY PATTERN
WITH BRASS PLUNGER, COTTON PACKED

No. 7—**SYRINGE,** with Rose, jet and Ball Valve Spray Nozzle and Bend. The Spray Nozzle is fitted with fine hole Spraying Cap, also spare medium and coarse Spraying Caps are supplied. Stuffing Box. Drip Sleeve, which prevents user getting wet.
1″×14″ .. **29/6** each 1″×20″ .. **32/-** each
$1\frac{1}{4}$″×20″ .. **37/6** each.

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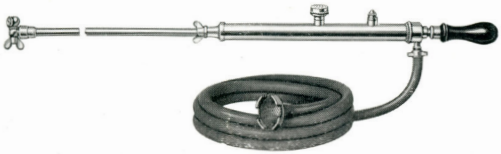
FOREMOST IN 1865 **MYSTO** STILL THE BEST

SELF SUPPLYING HAND SPRAYS



NIPPY SELF-SUPPLYING SPRAYER

Invaluable for destroying Green Fly and other insect pests, for disinfecting Dogs and other animals, for destroying insect pests in poultry pens, etc., and can also be used for Spraying Stock against foot-and-mouth disease; polished brass 12″ × 1″ Barrel, complete with 6-ft. Rubber Hose and Ball Valve Suction; Rose, Jet, and movable Swivel Spray Nozzle—all of which can be used with or without the 13½″ extension lance supplied.

Complete, **27**/- each.

No. **40 LADYWOOD SPRAYER**

37/6 each.

The ideal all-purpose continuous Hand Sprayer. Throws a stream of water to a height of 30 to 40-feet, very useful for spraying tall fruit trees, etc., and for cleaning highly situated windows. The all-brass, double-action pump gives a continuous spray and has a lacquered barrel, ⅜″ × 18″, with fixed jet, also detachable spray nozzle and plug, one uncloggable needle lime-washing nozzle and 10-ft. Hose.

EXTRAS.

BUCKET STRAINER .. 6/9 each.

12″ BENT LANCE .. 5/3 each.

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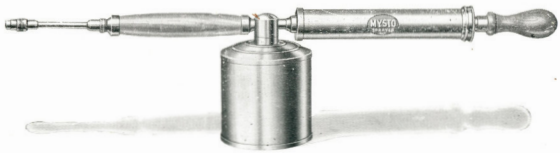
FOREMOST IN 1865 **MYSTO** STILL THE BEST

HAND SPRAYING OUTFIT

No. 39—GEM SPRAYING OUTFIT

For Spraying Fruit Trees, destroying Green Fly, Limewashing, Disinfecting, and spraying Creosote. Outfit comprises: All-brass Spray Pump Barrel 1¼" × 18", giving continuous spray; one Limewashing and one Spraying Nozzle; also Plain Jet; 10-ft. of good quality Hose with Strainer; 2-ft. polished and lacquered Brass Lance, Swivel Connection Angle Bend; All-metal Strainer and Spanner.

Complete, **60**/- each.



No. 144—ALL-BRASS CONTINUOUS SPRAYER

Strongly made and very useful, with Nozzle giving extremely fine atomization. Capacity 1½ pints.

Polished Brass .. **33**/6 each.

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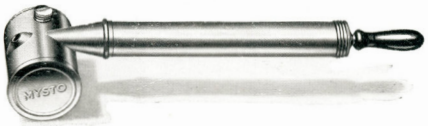
FOREMOST IN 1865 **MYSTO** STILL THE BEST

ATOMIZERS

No. 15—**MIDGET ATOMIZER**

With Brass Container, ideally suitable for that odd spraying job.

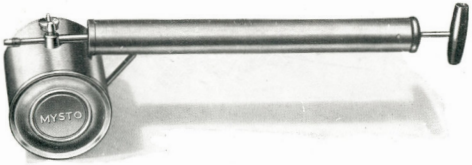
3/- each.



No. 9/1—**STANDARD PATTERN ATOMIZER**

Capacity, 1 pint

Plain Tinplate	..	45/- doz.
Painted Green	..	54/- „



No. 19—**CONTINUOUS SPRAY ATOMIZER**

A well made continuous Spray Atomizer. Capacity 1½ pints

Plain Tinplate	..	14/- each
Painted	..	15/6 „

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. 13—MYSTO JUNIOR INSECT POWDER BELLOWS

Most useful for spraying Rose Trees, Carnations and other plants for the destruction of Green and Black Flies and other insect pests, also Fleas, Moths, Bugs, Beetles, etc., and general disinfectant work. Can be made into a fumigator for Beehives.

18/- doz.

No. 18—MYSTO MINOR POWDER DISTRIBUTOR

Pump Barrel of strong tinned steel with detachable Container. Cellulose enamelled.

2-lb size .. 67/6 doz.

No. 51—WEED ERADICATOR

For destroying weeds without injury to surrounding plants or greens. By stabbing point into weed, enough liquid is introduced to destroy it. A screw-on cap protects the point when not in use. Cannot become clogged with earth.

Brass Steel Bronzed Finish .. 21/- each

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FOREMOST IN 1865 · MYSTO · STILL THE BEST

BRASS SPRAY NOZZLES

Giving variations of spray from fine to coarse, straight jet and shut-off.

No. **603**—LIGHT PATTERN SPRAY NOZZLE
NON-DETACHABLE UNION

½″ .. 45/- doz. ⅝″ .. 47/- doz. ¾″ .. 48/9 doz.

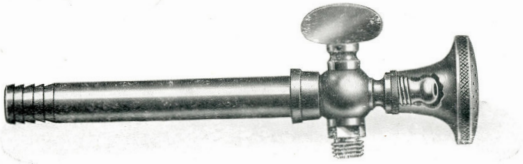
No. **602A**—MEDIUM PATTERN SPRAY NOZZLE
WITH DETACHABLE UNION

With ½″ union .. 65/9 doz. With ¾″ union .. 71/3 doz.
,, ⅝″ ,, .. 68/6 ,, ,, 1″ ,, .. 75/9 ,,
With taper union for ½″, ⅝″ or ¾″ hose .. 73/3 doz.

No. **610A**—BRANCH PIPE

With detachable Rose and fixed jet.

½″ .. 33/9 doz. ⅝″ .. 41/3 doz. ¾″ .. 50/9 doz.



No. **612A**—POLISHED BRANCH PIPE

With polished Stop Tap and fixed jet and detachable Rose, with screwed plug to carry same. (Registered Design).

½″ .. 84/6 doz. ⅝″ .. 112/6 doz. ¾″ .. 146/3 doz.

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FOREMOST IN 1865 — MYSTO — STILL THE BEST

BRASS SPRAY NOZZLES

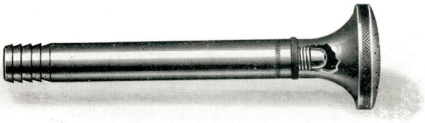
Giving variations of spray from fine to coarse, straight jet and shut-off.

No. 603—LIGHT PATTERN SPRAY NOZZLE NON-DETACHABLE UNION

½″ .. 45/- doz. ⅝″ .. 47/- doz. ¾″ .. 48/9 doz.

No. 602A—MEDIUM PATTERN SPRAY NOZZLE WITH DETACHABLE UNION

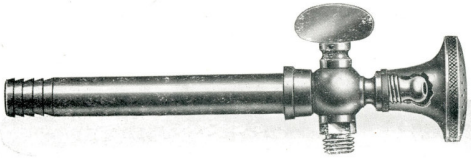
With ½″ union .. 65/9 doz. With ¾″ union .. 71/3 doz.
,, ⅝″ ,, .. 68/6 ,, ,, 1″ ,, .. 75/9 ,,
With taper union for ½″, ⅝″ or ¾″ hose .. 73/3 doz.



No. 610A—BRANCH PIPE

With detachable Rose and fixed jet.

½″ .. 33/9 doz. ⅝″ .. 41/3 doz. ¾″ .. 50/9 doz.



No. 612A—POLISHED BRANCH PIPE

With polished Stop Tap and fixed jet and detachable Rose, with screwed plug to carry same. (Registered Design).

½″ .. 84/6 doz. ⅝″ .. 112/6 doz. ¾″ .. 146/3 doz.

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Appendix 35 (13) - Catalogue 101/49

FOREMOST IN 1865 **MYSTO** STILL THE BEST

LAWN SPRINKLERS

No. **599**

SPIKE SPRINKLER

New design Lawn Sprinkler and Garden Sprayer Combined. By removing top cap and screwing on rose, the Sprinkler is converted into a powerful Sprayer suitable for spraying Peas, Beans, car washing etc.

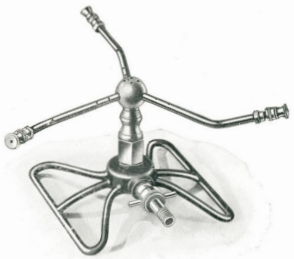
10/- each

No. **593**

SLED SPRINKLER

Nickel-plated Brass Head on Cast Aluminium Sled Base. With connection for ½" Hose. Will throw a spray 20 to 30-feet in diameter.

20/- each



No. **594**

TRIPLEX SPRINKLER

With Adjustable Spray Nozzles. Spray covers an area of well over 50-ft. in diameter. Arms mounted on Ball-bearing Head, with Cast Aluminium Base. Complete with Hose Coupling for ½" Hose.

33/**6** each

Connections for ⅜" or ¾" Hose can be supplied when specified

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FOREMOST IN 1865 — MYSTO — STILL THE BEST

BRASS HOSE FITTINGS

No. 617

THE "MYSTO" NON-SLIP TAP UNION

With lock device, snugly fits ½", ⅝" or ¾" taps, and can always be left attached to tap as it does not affect the domestic use of the tap. The nozzle is screwed with ¾" iron pipe thread to take cap and bend, to enable ½", ⅝" or ¾" hose to be attached.

3/9 each

No. 606

THE "MYSTO" CAP & LINING

For screwing on to the Non-slip Tap Union, cap screwed ¾" iron pipe.

½" Hose .. 2/- each
Taper .. 2/9 ,,

No. 700—HOSE FERRULES

½" × 2" .. 56/3 gross
⅝" × 2" .. 73/3 ,,
¾" × 2" .. 90/- ,,
1" × 2½" .. 144/- ,,

No. 614B

BRASS BURNISHED ROYLE'S TAP UNIONS

Complete with Rubber Cones

Size of Tap	Size of Hose	No. 614B Plain	SPARE RUBBER CONES
½"	½"	28/3 doz.	2/3 doz.
⅝"	⅝"	39/6 ,,	3/- ,,
¾"	¾"	50/9 ,,	3/9 ,,
1"	1"	144/- ,,	6/- ,,
⅝"	½"	28/3 ,,	3/- ,,
¾"	⅝"	50/9 ,,	3/9 ,,
¾"	½"	50/9 ,,	3/9 ,,
1"	¾"	144/- ,,	6/- ,,

No. 614C—ROYLE'S TAP UNION WITH CHAINS .. 7/6 doz. extra.

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FOREMOST IN 1865 — MYSTO — STILL THE BEST

BRASS HOSE FITTINGS

No. 618—**TAP UNION**

Standard Pattern. To Solder

Size of Hose	Union Screwed	Price
1/2"	1/2" iron	28/3 doz.
5/8"	3/4" ,,	33/9 ,,
3/4"	3/4" ,,	39/6 ,,
1"	1" ,,	105/- ,,

No. 615—**HOSE UNION**

Standard Pattern

Size of Hose	Union Screwed	Complete Union No. 605	Cap and Lining only No 605A
	iron	dozen	dozen
1/2"	1/2"	28/3	18/-
5/8"	3/4"	33/9	21/-
3/4"	3/4"	39/6	27/-
1"	1"	105/-	69/-
1 1/4"	1 1/4"	157/6	105/-
1 1/2"	1 1/2"	216/-	144/-
2"	2"	315/-	210/-

No. 601—**PLIERS**

For use with Hose Wires

22/6 per dozen pairs

No. 613—**FLEXIBLE BRASS HOSE CLIP**

For securing Fittings in Hose

Size of Clip	For use with Red Garden and All-Rubber Hose	For use with 2-ply long length Hose	Price per Gross
Diam.	Diam.	Diam.	
1/2"	—	—	54/-
5/8"	3/8"	—	57/-
3/4"	1/2"	—	59/3
7/8"	5/8"	1/2"	62/3
1"	3/4"	5/8"	64/6
1 1/8"	—	—	67/6
1 1/4"	7/8"	3/4"	69/9
1 3/8"	1"	—	72/9
1 1/2"	—	—	75/-
1 5/8"	—	—	78/-
1 3/4"	—	—	82/6
1 7/8"	—	—	86/3
2"	—	—	90/9

No. 600—**WIRES FOR BINDING**

Size 3" ..	21/- gross	Size 4" ..	24/9 gross
,, 3 1/8" ..	21/9 ,,	,, 4 1/8" ..	25/6 ,,
,, 3 3/8" ..	22/6 ,,	,, 4 1/2" ..	26/3 ,,
,, 3 3/4" ..	24/- ,,	,, 4 3/4" ..	27/- ,,

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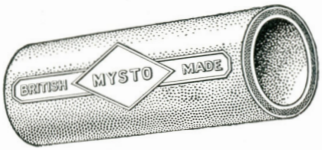
FOREMOST IN 1865 **MYSTO** STILL THE BEST



"MYSTO" RED WRAPPED GARDEN HOSE

Supplied in 60-ft. Coils.
½" in 1-ply, 2-ply and 3-ply.
⅝", ¾" and 1" in 2-ply and 3-ply.
Prices on application.
Cut lengths 10% extra.

" MYSTO " ALL-RUBBER CORRUGATED HOSE

Supplied in 60-ft. and 240-ft. Coils.
Sizes ½", ⅝", ¾" and 1"
Prices on application.
Cut lengths 10% extra.

"MYSTO" 2-PLY BRAIDED NON-KINK HOSE

Supplied in lengths of 250ft. and 500ft.
Sizes ½", ⅝", ¾" and 1"
Prices on application.
Cut lengths 10% extra.

ALL-RUBBER HOSE

Complete with Fittings on Painted Hose Reel.

No. 1 Set, comprising 60-ft. all-rubber Hose, No. 610A Branch Pipe, and No. 614B Royle's Union attached with two No. 613 Hoseclips.

Complete .. **52/-**

No. 2 Set, comprising 60-ft. all-rubber Hose No. 602A variable Spray Nozzle, No. 614B Royle's Union attached with two No. 613 Hoseclips.

Complete .. **55/-**

Hose Reel alone, painted Green .. **17/-**

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. 97

BRASS BILGE PUMPS

All-brass Pump, polished and lacquered and with Detachable Suctions.

Complete with Union for Rubber Hose.

Size			Each
1″ × 18″	1″	Union ..	30/-
1¼″ × 18″	1¼″	,, ..	36/-
1½″ × 20″	1″	,, ..	44/-

No. 130

BRASS OIL PUMPS FOR CASKS

Double-Action all-Brass Pump, polished and lacquered, giving continuous flow. Pump has uncloggable solid Brass Ball Valves and is complete with wing nut for fixing in bung-hole of cask.

Size of Barrel, 1¼″ × 31″ .. 54/- each
,, ,, 1¼″ × 43″ .. 58/6 ,,

"TYPHOON" SANITARY AND HYDRAULIC FORCE AND LIFT PUMP

No. 153

Extra strong and with Iron Handle for holding in position. Polished Brass Barrel, Brass Fittings and Polished Black Cross Handle.
Size, 1½″ × 15″
33/6 each
Complete with Rubber.
Spare Rubbers only,
9/- each

No. 151

DRIP TRAY

For Oil Pumps.
1¼″ .. 6/9 each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

BOTTLE SPRAYER.

Single action Bottle Sprayer fitted with external stuffing box for adjustment. This prevents any back-wash of water. The extension supplied screws into the end of the tube.

No. **I.S.A.** .. .. **7/6** each

No. **I.S.A.** with 6" Extension .. .. **9/-** ,,

PNEUMATIC SPRAYERS

No. **6**

PNEUMATIC HAND SPRAYER

Brass Container, polished and lacquered Brass Pump and Fittings. Capacity two pints. Screw-down valve control and two spray Nozzles.

26/- each

Container Polished .. **27/6** each

With standard Spraying Lance and Shut-off Tap, as our other Hand models.

Container Polished ... **35/-** each

Trigger Release as illustration .. **35/-** each
Container Polished

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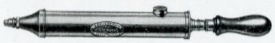
FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. 5

PNEUMATIC HAND SPRAYER

Container is of polished Copper, the Pump and fittings being of Brass. Filler Cap is fitted with Automatic Safety Valve, Spray Lance and Shut-off Tap. The handle being tubular, it is a simple matter to fix a pole or Bamboo Lance for spraying grapes or tall plants, beyond the reach of the ordinary sprayer.

4-pint size, **75/-** each
6-pint size, **85/-**



No. 7

PATENT VAPORIZER

Highly polished and Nickel-plated. An entirely new design, which can be completely dismantled by removing the Jet and Lock-nut. This facilitates cleaning, which is a necessity with this type of Sprayer owing to the corrosive nature of many disinfectants. All Valves are of ample dimensions and easily accessible.

6" ... **30/-** 9" ... **32/6** 12" ... **35/-**

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. 155

PNEUMATIC SPRAYER

Pump and fittings of non-corrosive brass alloy, suitable for all spraying mixtures. Complete with 42" best ⅜" bore Spraying Hose, two brass Hose Clips, Lance with Automatic Release, two Nozzles, one Webbing and Leather Shoulder Strap, Pressure Gauge and self-contained Removable Pump.

	each
1 gallon.	
Brass Container	107/-
Galvanized Steel Container	99/-
2 gallon.	
Brass Container	122/-
Galvanized Steel Container	112/6
3 gallon.	
Brass Container	138/-
Galvanized Steel Container	127/-

KNAPSACK PNEUMATIC SPRAYER

Heavy Pattern.

Container made of non-corrosive brass alloy, suitable for corrosive liquids. Automatic Release, 42" ⅜" bore high pressure Spraying Hose, Single Swivel Needle Spring Nozzle, Pressure Gauge, Shoulder Straps, self-contained Pump, Spanner and Strainer for filling.

No.	Capacity Tank Galls.	Capacity Working Galls.	Weight Lbs.	each
7	1½	1	10¾	195/-
8	2½	2	13¾	233/-
9	4	3	17	263/-
10	5	4	18½	293/-

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

KNAPSACK SPRAYER

No. 1
Polished Copper
Container
(for non-corrosive
liquids)
157/6 each

No. 3
Tinned Copper
Container
(for
corrosive liquids)
168/- each

For spraying Vines, Fruit Trees, Hops, Potatoes and destruction of Charlock. Strong polished copper Container and Polished brass Fittings. Complete with Brass Strainer, Steel Spanner, movable double Spraying Nozzle for potato spraying. Webbing and Leather Shoulder Straps, 42" Hose and Delivery Lance. Capacity 3¼ gallons. Weight, 15½ lbs.

KNAPSACK SPRAYER

No. 4
Polished Copper
Container
(for non-corrosive
liquids)
171/- each

No. 5
Tinned Copper
Container
(for
corrosive liquids)
180/- each

With external pump, for spraying Vines, Fruit Trees, Hops, Potatoes, etc. Polished Copper Container. Brass Pump, Valve Box, Air Chamber and fittings. Complete with Brass Strainer, Steel Spanner and Special double Swivel Nozzle for potato spraying etc. Webbing and Leather Shoulder Straps, 42" Hose and Lance with Tap. Capacity 3¼ gallons. Weight 16½ lbs.

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

LIMEWASHING & SPRAYING PUMPS

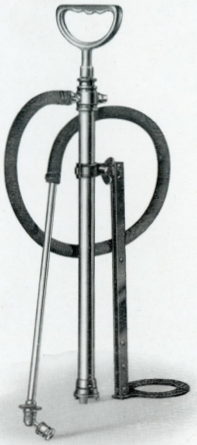
No. **135**

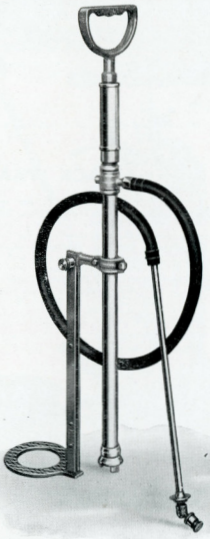
SPRAY PUMP

Strong double action Brass Pump with adjustable wrought iron foot. Complete with 42″ of ⅜″ bore spraying hose and 15″ Lance with fixed jet and uncloggable Limewashing Nozzle, set at 45° to facilitate spraying of foliage and underneath leaves.

Approx. net weight 5½-lbs.

45/- each.





No. **35**

SPRAY PUMP

Strong double action Brass Pump fitted with improved air chamber, adjustable wrought iron foot. 42″ of ⅜″ bore spraying hose, 15″ Lance with fixed jet and Limewashing Nozzle, set at 45° to facilitate spraying of foliage and underneath leaves, etc. Spare cap for L.W. Nozzle giving extra fine spray.

Approx. weight 5½-lbs.

48/9 each.

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. **33**

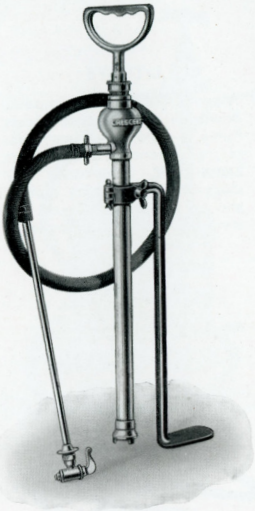
CRESCENT SPRAY PUMP

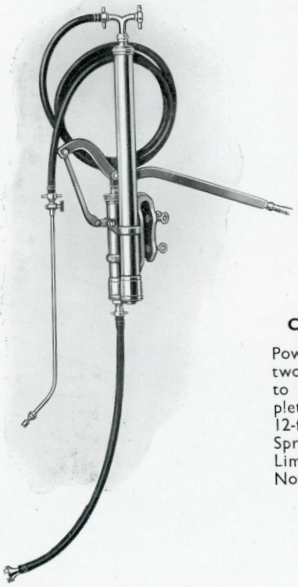
Heavy Popular Pattern.

Brass Pump with strong cast malleable iron adjustable Stirrup Foot. 42″ of ⅜″ bore Spraying Hose, Brass Lance and Bordeaux Nozzle.

Approx. net weight 7½-lbs.

60/- each.





CHAMPION BARREL PUMP

Powerful double action Brass Pump with two-way swivel outlet. Ready for fixing to barrel or similar container. Complete with 3-ft. ½″ bore Suction Hose, 12-ft. ½″ bore Delivery Hose, Brass Spraying Arm with Stop-cock, one Limewashing Nozzle and one Spraying Nozzle.

No.**27** 2″ Barrel size

£15 - 15 - 0 each.

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. **0**

UTILITY

A very convenient model. Powerful double-action Brass Pump, 4-gallon container, 6-ft. of ⅜" bore Hose, Brass Lance with Stop-cock, Uncloggable Limewashing Nozzle and Spraying Nozzle, also all-metal Strainer with Handle.

97/6 each

No. **A.I.**

NON-SPLASH

At the neck of this tapered side Container a perforated Brass Strainer is tightly fitted. This obviates the danger of the spraying mixture splashing when being carried. Strong double-action Brass Pump mounted in 4-gallon container. 6-ft. of ⅜" bore Hose, Lance with Stop-cock and uncloggable Limewashing Nozzle.

107/6 each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

THE SWIFT

Extra powerful double-action Brass Pump with Air Chamber, thus increasing the force. 6-ft. of best high pressure ½" bore Hose, polished brass Spraying Arm with Stop-cock, one Limewashing and one Spraying Nozzle, complete in strong galvanized iron Container. Capacity 4 gallons. Strong perforated all-brass Strainer.

120/- each

THE SAMPSON

A powerful double-action Brass Pump with lever and air chamber, 6-ft. of best high pressure ½" bore Armoured Hose, polished brass Spraying Arm with Stop-cock, one Limewashing and one Spraying Nozzle, complete in strong galvanized Container. Capacity 4 gallons. Strong perforated all-brass Strainer.

145/- each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

THE BAILIFF

This powerful double-action brass Pump is fitted with lever and air chamber, thus increasing the force. 6-ft. of the best high pressure ½" bore Armoured Hose, polished brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. Complete in strong galvanized iron Container. Capacity 6 gallons. Strong perforated all-brass Strainer.

155/- each

THE COUNTY

Powerful double-action brass Pump with lever and air chamber, with 6-ft. of best high pressure ½" bore Armoured Hose. Polished brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. Complete in strong galvanized oval iron Container, with hardwood turned handle. Capacity 6 gallons. Strong perforated all brass Strainer.

170/- each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

LIMEWASHING AND SPRAYING MACHINES

THE NURSERYMAN

6 Gallon

Double-action Brass Pump. Sturdy galvanized iron Container with strong all-brass perforated Strainer. 10-ft. of ½" bore high pressure Hose. Polished Brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. 9" diameter Wheel with wide face.

£12 - 12 - 0

THE WINCHESTER

10 Gallon

Powerful double-action Brass Pump with 10-ft. best high pressure ½" bore Hose. Polished Brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. Strong galvanized iron Container, with strong perforated all-brass Strainer. 9" diameter Wheel with wide face.

£14 - 0 - 0

Either of the above can be fitted with Solid Rubber Tyre at an extra cost of 15/-

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

THE WINCHESTER-DE-LUXE

15 Gallon

A powerful double-action Brass Pump with 10-ft. of best high pressure ½" bore Hose. Heavy gauge rectangular Container, with strong perforated all-brass Strainer, polished brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. 9" diameter Wheel with wide face.

£16 - 0 - 0

THE DENBEIGH

10 Gallon

Strong Brass double-action Pump, with swivel top, sturdy Container, complete with Agitator, 10-ft. best quality ½" bore Hose, polished Brass Spraying Arm with Stop-cock, one Limewashing and one Spraying Nozzle ; also strong perforated all-Brass Strainer. 9" diameter Wheel with wide face.

£19 - 10 -0

Either of the above can be fiitted with a solid Rubber Tyre at an extra cost of 15/-

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

THE DENBEIGH-DE-LUXE
15 Gallon

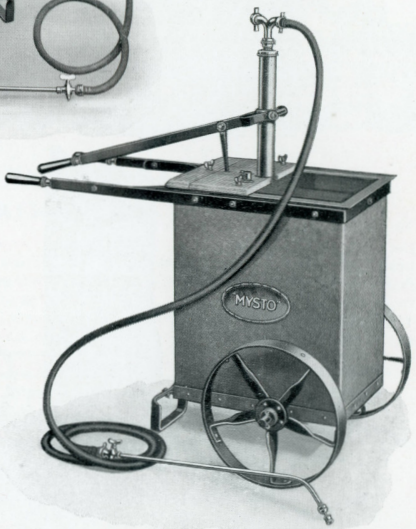
RUBBER TYRES.

A very handy and efficient machine. It is similar to the "Denbeigh," but with a strong 15-gallon square Container, Strong Axle 16″ wheels. A very steady machine on rough ground. Pump easily detachable from Container by removing three wing nuts.

£26 - 0 - 0

With Iron Wheels

£21 - 10 - 0



THE SHREWSBURY
18 Gallon

Very powerful 2″ capacity Pump, with 2-way swivel outlet. Strong Container complete with Agitator, 12-ft. best quality ½″ bore Hose, polished Brass Spraying Arm with Stopcock, one Limewashing and one Spraying Nozzle; also strong perforated all-brass Strainer. Strong axle, 16″ wheels with wide faces. Pump can be used efficiently, if required, with two lengths of Delivery Hose. Pump easily detached by removing three wing nuts.

£27 - 0 - 0

The above can be fitted with Pneumatic Tyres 16″ × 4″ at an extra cost of **£4 - 10 - 0**
Additional 12-ft. length of Hose, complete with Unions, Brass Spraying Arm with Stopcock, one Lime washing and one Spraying Nozzle, **42/9**

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

HANDYMAN MINOR PAINT SPRAYER

A really useful apparatus to have in the home. It comprises a powerful Brass Hand Pump fitted into a strong Air Storage Cylinder with Pressure Gauge, 6-ft. of Rubber Hose, Spray Pistol with Trigger Air Control, and three Glass Paint Containers with air-tight lids.

Complete as illustrated .. **90**/- each

Additional Paint Containers **21**/- dozen extra

HANDYMAN PAINT SPRAYER

This model is similar to the "Minor," but has a powerful Brass Foot Pump, which is easier to work than a hand pump. This outfit will give long and excellent service.

Complete as illustrated, **112**/- each

Additional Paint Containers, **21**/- dozen extra.

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

HANDYMAN DE-LUXE PAINT SPRAYER

This is a substantial workmanlike outfit, built to give long, hard and efficient service in the Workshop or Garage. The powerful 3" diameter Brass Foot Pump provides ample air for large jobs. The Air Storage Cylinder is fitted with a Pressure Gauge, also a Non-Return Valve, which obviates any loss of air pressure back through the Pump. The Foot Pump and Air Storage Cylinder are securely fixed to a base board. The Spray Pistol is well-balanced and is fitted with Trigger Air Control. The outfit is complete with 6-ft. of good strong rubber Hose and three Glass Paint Containers. These Paint Containers have special screw-on air-tight lids, this enables you to store paint in them, when not in use, for almost any length of time without congealing or wasting.

Complete as illustrated	**135**/- each
Additional Paint Containers	**21**/- dozen extra

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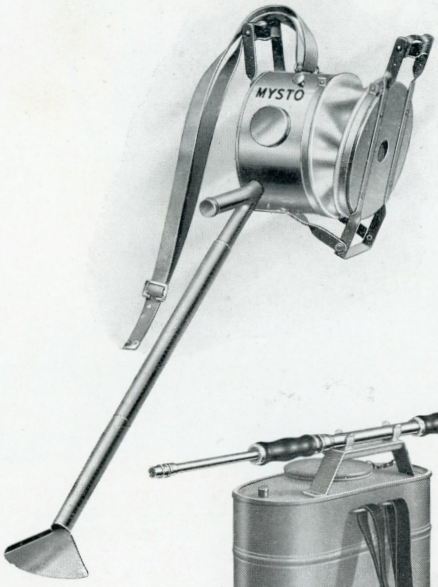

No. **12**

POWDER BLOWER

Reg. No. 841420

Steel enamelled green, Leather Bellows, Wood Hand Grips and Web Shoulder Strap with brass fittings. Alternative outlets are provided—one of 90° for dusting small fruit trees, raspberries, brassica crops, etc., and the other of 135° for dusting ground crops. A Control Valve regulates output volume. Capacity 8 to 12-lbs.

67/6 each

No. **41**—**KNAPSACK SPRAYING OUTFIT**

Three-gallon Container, complete with Strainer, two Leather and Webbing Shoulder Straps and necessary fittings attaching Ladywood Spray Pump, as illustrated. Galvanized **112/-** each

Copper .. **135/-** each Tinned Copper .. **142/-** each

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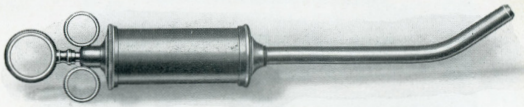
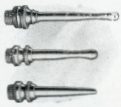
FOREMOST IN 1865 **MYSTO** STILL THE BEST

EAR and CATTLE SYRINGES



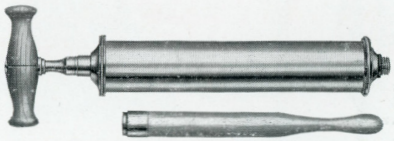
No. **298**—**PIG DRENCHING OR DOSING SYRINGE**
Nickel-plated Brass 2 oz. 4″ × 1¼″ .. **18**/9 each

No. **300 EAR SYRINGE**
Polished Brass with Fine Hole Nozzle. Three Rings and Leather Plunger
2 oz. 4″ × 1¼″ .. **15**/- each 3 oz. 4″ × 1½″ .. **16**/6 each 4 oz. 5½″ × 1½″ .. **18**/- each



No. **302**—**EAR SYRINGE**
Nickel-plated with Fine Hole Nozzle.
Three Rings and All-metal Plunger.
With 2 short or 1 long Nozzle.
2 oz. 4″ × 1¼″ .. **21**/- each 3 oz. 4″ × 1½″ .. **22**/6 each
4 oz. 5½″ × 1½″ .. **24**/- each

SPARE NOZZLES
For Nos. **300** and **302**
18/- doz.



No. **5**—Fitted with Boxwood T Handle
(Polished Laquered and Tinned Inside)

		With 9″ Boxwood Injector	If with 16″ Abortion Pipe instead of Boxwood Injector as illustrated	Extra for additional 5″ Metal Injector
½ pint	1¾″ × 9″ ..	**28**/- each	**32**/6 each	**2**/3 each
1 pint	2″ × 12″ ..	**34**/- ,,	**39**/- ,,	**2**/3 ,,
2 pint	2½″ × 15″ ..	**45**/- ,,	**49**/6 ,,	**2**/3 ,,

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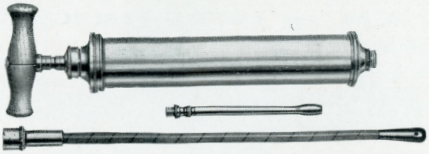
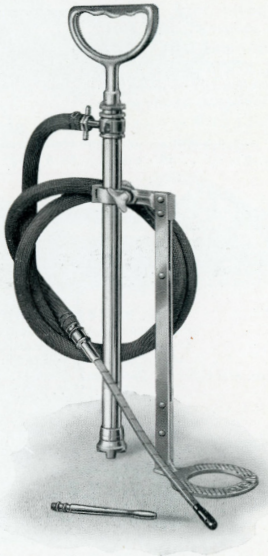


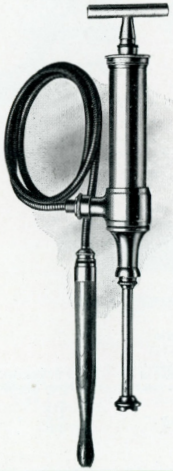
No. 4—Fitted with Boxwood T Handle and 5″ Metal Injector and 16″ Flexible Abortion Pipe. Self-Oiling Plunger.
½ pint 1¾″×9″ .. **41/6** each. 1 pint 2¼″×11″ .. **49/6** each. 2 pint 2½″×15″ .. **63/-** each

No. **93**
ENEMA PUMP
COLONIAL PATTERN

Nickel-plated Brass Double-action Pump with 6-ft. of ⅜″ bore Hose. Complete with Malleable Iron Foot, Flexible Abortion Pipe and 5″ Metal Injector.

60/- each





No. **55**—**WINTON'S PATTERN**
Tinned Inside and supplied with three different size Boxwood Injectors and with 6-ft. ⅜″ bore Hose. As illustrated on left.

100/- each

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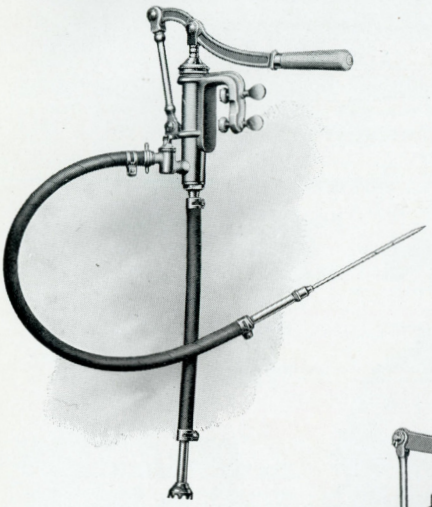
FOREMOST IN 1865 **MYSTO** STILL THE BEST



BUTCHERS' SALTING PUMP

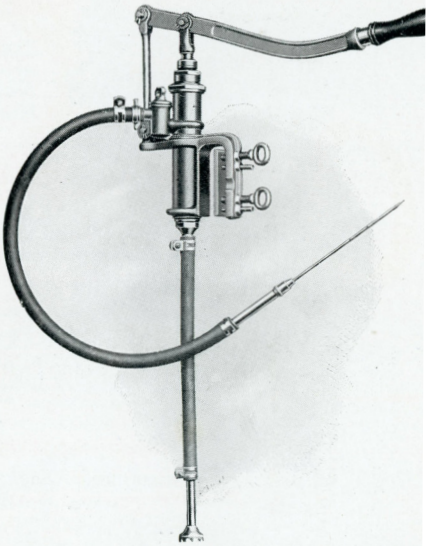
No. **45**

BRINE PUMP

All Brass Pump and Brack
Nickel-plated 1½" size w
30" of ½" Delivery Hose a
15" of ½" Suction Ho
Complete with Suction a
Needle.

79/- each

Spare Needles **4/6** eac



No. **44**

BRINE PUMP

Double-action

1¾" size with all-Brass Metal Piston, Nickel-plated outside, Tinned inside. Complete with 30" of ½" Delivery Hose, Needle and 15" of ½" Suction Hose.

155/-

Spare Needles **4/6** each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. **105**—**SALTING SYRINGE**

Nickel-plated Syringe with Stuffing Box, well finished. Tinned inside. Barrel of Syringe is so made that each end can be screwed off for cleaning purposes. Special Nickel-plated Needle 7″ long supplied, as illustrated, with point to screw off.

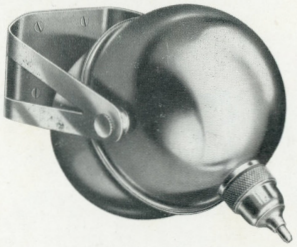
½-pint, size 1½″ x 14″ .. **24/6** each Spare Needles, **4/6** each

POULTRY SINGEING LAMP

For use with gas.
All Brass with Black Wood Handle.

No. **51** .. .. **12/9** each

No. **52** With Bye-pass **15/9** each



SOAP DISPENSER

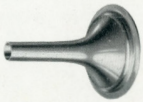
The bowl is made of Copper tinned inside, fitted with Brass Nozzle and Bracket. Heavily Chromium-plated.

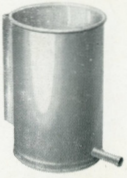
22/6 each

ALUMINIUM SAUSAGE FILLERS

No. **10, 22** and **32**

$\frac{7}{16}$″ size .. **7/6** each $\frac{5}{8}$″ and $\frac{3}{4}$″ size .. **6/6** each





DOUCHE CANS

Made of strong tin plate, stove enamelled cream.

2-pint size .. .. **5/3** each
3-pint size .. .. **6/6** each

ALUM MEASURES

GOVT. STAMPED

¼ pint .. **3/9** each 1 pint .. **6/6** each
½ ,, .. **4/9** ,, 2 ,, .. **9/-** ,,

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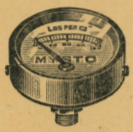
FOREMOST IN 1865 **MYSTO** STILL THE BEST

LIMEWASHING AND SPRAYING MACHINE ACCESSORIES

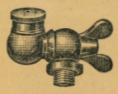
BAMBOO EXTENSION LANCE

No. 113 6′ 6″ .. 48/- each
No. 113A 8′ 0″ .. 52/6 „
No. 114 10′ 6″ .. 57/- each
No. 115 13′ 0″ .. 63/- „

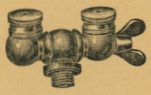
¼″ CAP AND LINING
2/- each



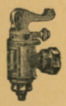
No. 151
PRESSURE GAUGE
12/- each



No. 68
SINGLE SWIVEL NOZZLE
9/- each

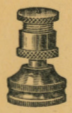


No. 69
DOUBLE SWIVEL NOZZLE
10/6 each



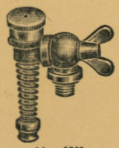
No. 78
COMBINED JET & BORDEAUX or Crescent Spraying Nozzle
9/- each

No. 75
SPRAYING NOZZLE
5/3 each



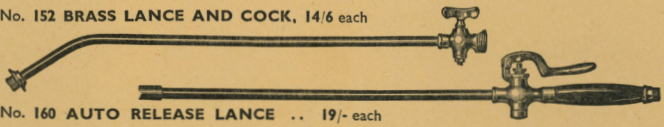
No. 76
UNCLOGGABLE LIMEWASHING NOZZLE
7/6 each

No. 150
DISC NOZZLE
9/- each



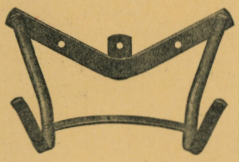
No. 68K
SINGLE SWIVEL NEEDLE SPRING NOZZLE
9/- each

No. 152 BRASS LANCE AND COCK, 14/6 each



No. 160 AUTO RELEASE LANCE .. 19/- each

ABORTION PIPE: Overall length 16″, 9/- each. **BOXWOOD INJECTOR:** Overall length, 9″, 4/6 each. **NICKEL-PLATED BRASS BULL PIPE:** Overall length, 5″, 2/3 each. **ALUMINIUM INJECTORS:** 6/- each



No. 500
THE "MYSTO" HOSE BRACKET
For conveniently and quickly storing away Rubber Hose. Made to take 120ft.
4/3 each

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Appendix 36 (1) **Catalogue 101/51**

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Appendix 36 (2) - Catalogue 101/51

TERMS OF BUSINESS

CASH TERMS 2½% within thirty days (Home Trade only).

CARRIAGE All orders of £10 and upwards in value are sent carriage paid, to any address in the United Kingdom.

CASES Extra at cost, credited in full if returned in good condition within fourteen days.

CONDITIONS OF SALE

All articles illustrated in this list are supplied subject to the following conditions:

That the manufacturer shall not be liable to make good any expenditure, damages *and/or* losses, arising out of any use or dealing with any goods, however such expenditure, damage or loss shall arise, and whether from any defect in the goods or otherwise, the manufacturer's liability being limited to the repair or replacing of such goods.

GOODS RETURNED FOR CREDIT

No goods will be accepted for credit without previous agreement in writing.

PRICES—The Company reserves the right to vary the list prices and designs at any time, and all goods are invoiced at the prices current on the day of delivery. Should the price be increased prior to delivery, the Purchaser has the option of cancelling the order within seven days after being notified of such increase.

THIS CATALOGUE CANCELS ALL PREVIOUS ISSUES, DISCOUNTS AND SPECIAL PRICES QUOTED HITHERTO.

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Appendix 36 (3) - Catalogue 101/51

RETAIL PRICE LIST

"MYSTO"

1951

BRASS CATALOGUE No. 101/51.

DISCOUNT

$33\frac{1}{3}\%$

All Orders of £10 and upwards net value Carriage Paid.

Packing Cases charged extra at cost

THIS CATALOGUE CANCELS ALL PREVIOUS ISSUES & DISCOUNTS

W. T. FRENCH & SON, LTD.

Established 1865

MYSTO WORKS,

BIRMINGHAM 16, ENGLAND.

Cables: "SYRINGES, BIRMINGHAM."

Phone: EDGBASTON 2994/5/6/7:

For Domestic Electrical Appliances—
see separate Catalogues.

LONDON OFFICE:

NELSON HOUSE, 15 GREVILLE ST., LONDON, E.C.1.

Telephone: HOLBORN 5638/9
Telegrams: "SYRINGING, LONDON.

Contractors to ADMIRALTY, MINISTRY OF SUPPLY and H.M. OFFICE OF WORKS.

CATALOGUE No. 101/51

For Garden Hose please send your enquiries to our ASSOCIATED COMPANY:

MESSRS. G. & W. PURSER, LTD.,
15, Greville Street, London, E.C.1.

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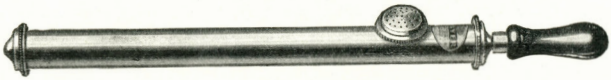
Appendix 36 (4) - Catalogue 101/51

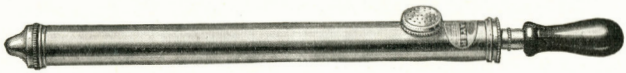
FOREMOST IN 1865 **MYSTO** STILL THE BEST

POLISHED BRASS SYRINGES



POLISHED BRASS SYRINGE, strong gauge Detachable Fittings with collar on each end of Barrel.

No. 98/1		No. 98/2	
One Rose and one Jet		Two Roses and one Jet	
1¼" x 16"	13/6 each	1¼" x 16"	16/- each
1½" x 18"	15/9 ,,	1½" x 18"	18/3 ,,



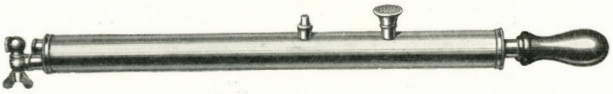
BRASS SYRINGE, with cast fittings and Stuffing Box, with a collar on each end of the Barrel

No. 101/1		No. 101/2	
One Rose and one Jet		Two Roses and one Jet	
1¼" x 16"	17/6 each	1¼" x 16"	20/6 each
1½" x 18"	20/- ,,	1¼" x 18"	23/6 ,,

No. 0101—**OIL OR TALLOW SYRINGE**

Strongly made of Brass, polished and lacquered, with 4" Taper Jet—straight or bent

1" x 8"	11/6	1" x 12"	13/-	1¼" x 12"	14/9	1¼" x 16"	17/6
1½" x 12"	18/-	1½" x 14"	20/-	1½" x 18"	21/9	1¾" x 18"	35/- each



No. 119—**BRASS SPRAY SYRINGE,** with movable Fine Sprayer. Complete with Ball Valve for easy filling; also Rose and Jet interchangeable with Sprayer, the Syringe can be filled very quickly whichever fitting is in operation.

1¼" x 20" . 19/- each

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Appendix 36 (5) - Catalogue 101/51

FOREMOST IN 1865 **MYSTO** STILL THE BEST

POLISHED BRASS SYRINGES

No. 8—**SYRINGE,** with double leather bucket plunger and fitted with Ball Valve Sprayer with Detachable Nozzle and Drip Ring.

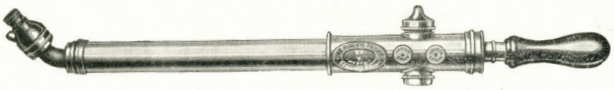
$\frac{7}{8}$" x 12" . **11/-** each

No. **9**—**SYRINGE,** fitted with Ball Valve Angle Sprayer, Drip Ring, etc.

$\frac{7}{8}$" x 16" . **14/6** each

No. **5**—**SYRINGE,** complete with Bend and Rose, also Sprayer, which is fitted with Ball Valve for easy filling. Stuffing Box. Leather Bucket Plungers.

1" x 20" . **22/6** each



HEAVY PATTERN WITH BRASS PLUNGER, COTTON PACKED

No. **7**—**SYRINGE,** with Rose, Jet and Ball Valve Spray Nozzle and Bend. The Spray Nozzle is fitted with fine hole Spraying Cap, also spare medium and coarse Spraying Caps are supplied. Stuffing Box. Drip Sleeve, which prevents user getting wet.

1" x 14" . **35/6** each 1" x 20" . **37/6** each $1\frac{1}{4}$" x 20" . **46/6** each

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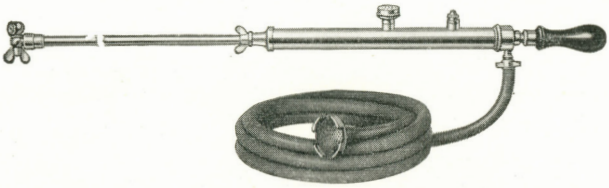
Appendix 36 (6) - Catalogue 101/51

FOREMOST IN 1865 **MYSTO** STILL THE BEST

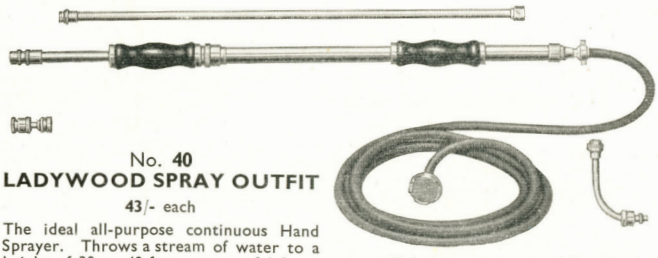
SELF SUPPLYING HAND SPRAYS



NIPPY SELF-SUPPLYING SPRAYER

Invaluable for destroying Green Fly and other insect pests, for disinfecting Dogs and other animals, for destroying insect pests in poultry pens, etc., and can also be used for Spraying Stock against foot-and-mouth disease; polished brass 12″ x 1″ Barrel, complete with 6-ft. Rubber Hose and Suction ; Rose, Jet and movable Swivel Spray Nozzle—all of which can be used with or without the 13½″ extension lance supplied.

Complete, **31/6** each

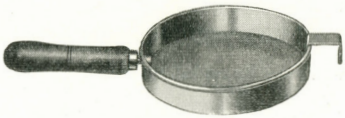


No. **40**

LADYWOOD SPRAY OUTFIT

43/- each

The ideal all-purpose continuous Hand Sprayer. Throws a stream of water to a height of 30 to 40-feet, very useful for spraying tall fruit trees, etc., and for cleaning highly situated windows. The all-brass, double-action pump gives a good spray. Has a lacquered barrel, ¾″ x 18″, with fixed Jet, also detachable Spray Nozzle and Plug, one uncloggable Needle Lime-washing Nozzle and 10-ft. Hose, swivel angle bend and straight lance.



BUCKET STRAINER . **7/6** each

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Appendix 36 (7) - Catalogue 101/51

FOREMOST IN 1865 **MYSTO** STILL THE BEST

LAWN SPRINKLERS

No. **599**

SPIKE SPRINKLERS

New design Lawn Sprinkler and Garden Sprayer Combined. By removing top cap and screwing on rose, the Sprinkler is converted into a powerful Sprayer suitable for spraying Peas, Beans, car washing, etc.

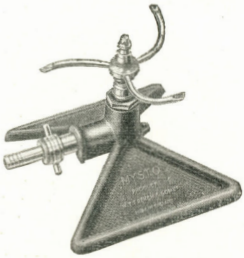
11/- each

No. **584**

MYSTO SCATTRA

A Sprinkler giving a very fine spray with no moving parts. Taper tail.

27/**6** each

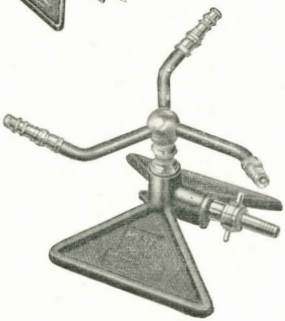


No. **593**

SLED SPRINKLER

Nickel-plated Brass Head on Cast Aluminium Sled Base. With taper connection for Hose. Will throw a spray 20 to 30-feet in diameter. Cap screwed ¾" iron.

22/- each



No. **594**

TRIPLEX SPRINKLER

With Adjustable Spray Nozzles. Spray covers an area of well over 50-ft. in diameter. Arms mounted on Ball-bearing Head with Cast Aluminium Base. Complete with taper Hose Coupling. Cap screwed ¾" iron.

37/- each

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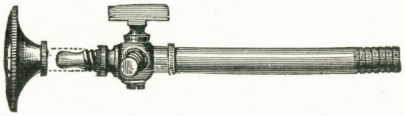
Appendix 36 (8) - Catalogue 101/51

FOREMOST IN 1865 **MYSTO** STILL THE BEST

BRASS HOSE FITTINGS

No. 612A
Sanded finish



With Tap, Rose and Jet.

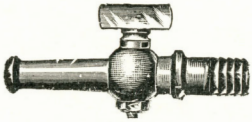
	½″	⅝″	¾″	1″	
For Hose No. 612A	8/6	11/6	14/9	24/6	each

No. 610A

Without Tap

	½″	⅝″	¾″	1″	
For Hose No. 610A	3/5	4/3	5/3	13/6	each

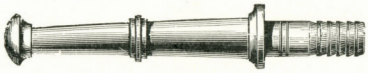
No. 1991
HOSE DIRECTOR



With Tap

	½″	⅝″	¾″	1″	
For Hose No. 1991	19/10	24/4	32/-	36/9	each

No. 199
HOSE DIRECTOR



Without Tap

	½″	⅝″	¾″	1″	1¼″	1½″	2″	
For Hose No. 199	3/10	5/3	6/9	9/3	17/9	21/6	37/-	each

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Appendix 36 (9) - Catalogue 101/51

FOREMOST IN 1865 **MYSTO** STILL THE BEST

SPRAY NOZZLES

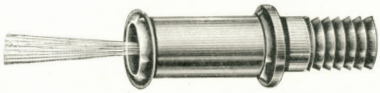
No. 602A
Screwed ¾" Gas Thread (with the exception of ½" size screwed ½" gas).

		½"	⅝"	¾"	1"	
602A.	For Hose	6/8	7/-	7/4	9/3	Tapered 7/8 each

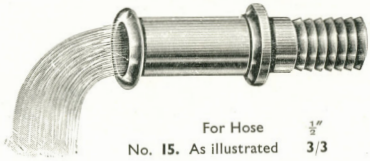
No. 603—LIGHT PATTERN SPRAY NOZZLE
NON-DETACHABLE UNION

	½"	⅝"	¾"	
No. 603.	4/7	4/9	5/-	each

CAR WASHING NOZZLE



To change from jet to flow—place finger over outlet for a moment.



To change from easy flow to jet—give sharp downward jerk.

		½"	⅝"	¾"	
For Hose No. 15.	As illustrated	3/3	3/9	4/7	each

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Appendix 36 (10) - Catalogue 101/51

FOREMOST IN 1865 **MYSTO** STILL THE BEST

ROYLES TAP UNION
With Chain.

No. 614C

½″	⅝″	⅝″ × ½″	¾″	¾″ × ½′
3/8	4/10	4/10	6/1	6/1

¾″ × ⅝″	1″	1″ × ¾″	1¼″
6/1	10/7	10/7	19/10 each

THE "ROYLES" TAP UNION
No. 614B

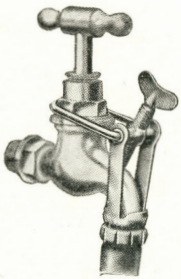
½″	⅝″	⅝″ × ½″	¾″	¾″ × ½″	¾″ × ⅝″	1″	1″ × ¾″	1¼″
2/10	4/-	4/-	5/3	5/3	5/3	9/9	9/9	19/-

each

Kindly note that details given are Tap Sizes first and Hose Sizes last

RUBBER CONES FOR "GRIPS" AND "ROYLES"

½″	⅝″	¾″	1″	1¼″
2/9	3/6	4/6	8/-	15/- per dozen



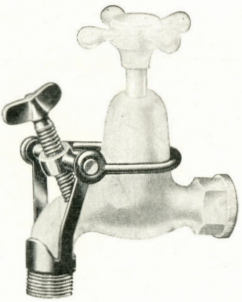
The "SCREW-DOWN" Tap Union—No. 619

½″	⅝″	¾″
34/6	38/-	44/- per doz.

The "MYSTO" NON-SLIP TAP UNION
No. 617

With lock device, snugly fits ½″, ⅝″ or ¾″ taps, and can always be left attached to tap as it does not affect the domestic use of the tap. The nozzle is screwed with ¾″ iron pipe thread to take cap and lining to enable ½″, ⅝″ or ¾″ hose to be attached.

3/4 each



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FOREMOST IN 1865 **MYSTO** STILL THE BEST

THE CLAW PATTERN HOSE REPAIRER

No. **701**
For Garden Hose.

No. **701. LIGHT PATTERN** for Garden Hose

For Hose ½″ 5/8″ ¾″
7/6 **8/6** **10/-** per dozen

No. **606**

THE "MYSTO" CAP AND LINING

For screwing on to the Non-slip Tap Union, cap screwed ¾″ iron pipe.
Taper . **3/-** each

BRASS REPAIRING JOINTS

No. **700**

For Hose . ½″ 5/8″ ¾″ 1″
5/9 **7/8** **9/6** **17/3** per doz.
Larger sizes, prices on application.

BRASS HOSE WIRES

No. **600**
For use in conjunction with No. 214 Joints

Size No.	0	1	* 2	* 3	* 4	* 5	6
Length	3″	3 3/16″	3 3/8″	4 1/8″	4 3/8″	5″	5 1/2″
	26/6	**28/-**	**29/6**	**31/-**	**32/-**	**37/6**	**41/6** per gross

*These Sizes for Corrugated Hose ½″, 5/8″, ¾″, 1″ respectively.

HOSE PLIERS

No. **601**
Best Malleable Quality for Fixing Hose Wires securely
2/6 per pair

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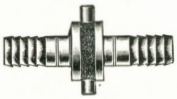
FOREMOST IN 1865 **MYSTO** STILL THE BEST

CONNECTING UNIONS.



No. 615 or 212

For Hose	½"	⅝"	¾"	1"	
No. 615	2/10	3/6	4/-	9/9	each
No. 618	2/10	3/6	4/-	9/9	,,
No. 615A	1/11	2/4	2/8	6/6	,,
Soldering Lump	1/-	1/2	1/4	3/3	,,
Screwed Gas Thread	½"	¾"	¾"	1"	

CAPS & TAILS.

No. 615A & 212B

SOLDERING UNIONS

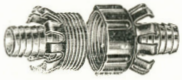
No. 618 or 212A

For Hose	½"	¾"	1"	
No. 212	3/3	7/-	13/6	each
No. 212A	3/3	7/-	13/6	,,
No. 212B	2/2	4/8	9/-	,,
Soldering Lump	1/1	2/4	4/6	,,
Screwed Gas Thread	¾",	1",	1¼"	

THE "HERCULES" PATTERN COUPLINGS

No. 25

For Garden Hose



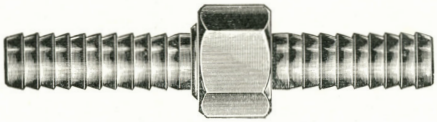
For Hose	½"	⅝"	¾"	
No. 25 Light Pattern for Garden Hose	40/-	42/-	48/-	per dozen

Note : The above are screwed ¾" gas thread (except 1").

LONGTAIL HOSE COUPLINGS

For Air, Steam, Pneumatic Pressure for Tools, Rock Drills, &c.

No. 128 illustrated



Stocked all sizes in brass

Hexagon Nut, Screwed Gas Thread, Flat-faced with Leather Washer

For Hose	⅛"	¼"	5/16"	⅜"	½"	⅝"	¾"	1"	1¼"	1½"	2"	
No. 128	2/7	3/1	3/8	3/10	8/5	12/11	15/3	37/6	55/-	76/6	110/-	each
No. 128A Caps & Tails	1/9	2/-	2/5	2/7	5/9	8/9	10/3	25/3	36/6	60/-	73/3	,,
No. 128I (Male Hose to Iron)					8/5	12/11	15/3	37/6	55/-	76/6	110/-	,,

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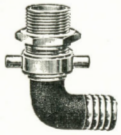
FOREMOST IN 1865 **MYSTO** STILL THE BEST



No. 124 No. 129 No. 133 No. 130 No. 131

For Hose	½″	¾″	1″	1¼″	1½″	1¾″	2″	2½″	2½″	3″	4″	6″	
No. 124	—	—	15/6	16/6	20/6	26/6	32/9	45/9	55/6	84/9	166/6	331/-	each
Caps and Tails	—	—	10/6	11/-	13/6	17/6	21/9	30/6	36/-	56/6	111/-	220/-	,,
No. 125 (Gun-metal)	—	—	—	19/-	23/6	30/6	37/6	52/6	63/10	97/6	193/6	382/-	,,
Caps & Tails	—	—	—	12/9	15/9	20/6	25/6	35/-	41/6	64/9	127/6	255/-	,,
No. 129	5/6	7/6	18/6	21/9	25/6	—	43/-	—	73/-	106/-	168/-	—	,,
No. 133 Double Male Nozzles	3/-	3/6	9/-	12/6	14/-	—	24/-	—	42/-	57/-	105/-	—	,,
No. 131 (Straight) Connector	3/6	4/9	7/6	10/-	12/9	—	16/6	—	26/6	44/-	—	—	,,
No. 130	10/9	11/9	26/6	37/-	44/-	—	71/6	—	—	—	—	—	,,
Caps & Tails	7/6	14/9	17/6	24/6	30/-	—	47/9	—	—	—	—	—	,,

NOTE :—All these Unions are Screwed Gas Thread.

FOOTVALVES AND STRAINERS FOR SUCTION HOSE

No. 31

CAST-BRASS STRAINERS

Prices on Application

No. 33

CAST-IRON FOOTVALVE & STRAINER

Prices on Application

No. 31
Cast-Brass Strainer
These can also be supplied in galvanised steel.
Prices on application.

No. 33
Cast-Iron Footvalve and Strainer
Light Pattern with tail-piece.

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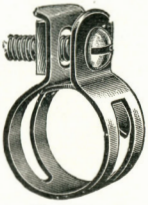
FOREMOST IN 1865 **MYSTO** STILL THE BEST



No. 613

BRASS HOSE CLIPS

No. 120. Strong and Flexible for all normal light pressure work.

½″	⅝″	¾″	⅞″	1″	1⅛″	1¼″	1⅜″	1½″	1⅝″	act. dia.
4/-	5/3	5/9	7/-	7/3	7/9	8/3	8/9	9/3	9/6	per dozen

1¾″	1⅞″	2″	actual diameter
10/-	10/6	11/-	per dozen. Larger Prices on Application.

–For Corrugated Hose Sizes—½″, ⅝″, ¾″ respectively.

No. 621. STEEL HOSE CLIPS

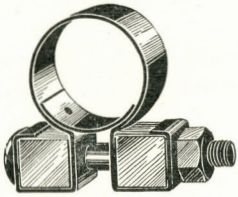
¾″	⅞″	1″	1⅛″	1¼″	1⅜″	act. dia.
2/8	2/10	3/-	3/8	4/2	4/8	per doz.

BLACK JAPANNED STEEL HOSE CLIPS

No. 123

HEAVY PATTERN. PRICES QUOTED WITH 1″ BAND.

We can quote by return for sizes required with bands up to 2″ width.



No. 123

1″	2″	3″	actual diameter
28/-	28/-	32/6	per dozen

4″	5″	6″	actual diameter
37/6	42/-	46/6	per dozen

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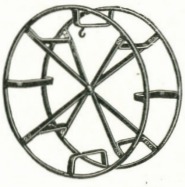
Appendix 36 (15) - Catalogue 101/51

FOREMOST IN 1865 **MYSTO** STILL THE BEST

HOSE REELS

No. 36



Has double the Strength of the Ordinary Reel.

The best Reel on the Market.

Nos.	0	1	2	
Sizes	17½"x6½"	19x7½"	22"x9"	
Prices, Painted	8/7	14/-	15/9	each
,, Galvanised	12/6	17/9	20/-	,,

Carrying Capacities Moulded Ribbed Hose (British Oak & Blackwata)

Nos.	0	1	2	3	4	5
½" Hose	(60)	(120)	(180)	(240)	(300)	(310) Ft.

HOSE RACKS

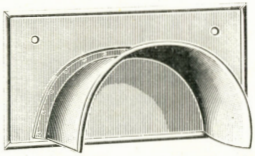
We can supply two patterns, both of which are GALVANISED and will be found useful in garages, garden sheds, warehouses, etc.

No. 40

Light and Strong

This rack will carry approx.: 60-ft. ½" hose
,, 40-ft. ⅝" ,,
,, 30-ft. ¾" ,,

5/- each



No. 41

Heavy Type Hose-Saddle

Measurements : Back Plate, 17½" x 9½"
Hose Saddle : 12" wide x 5" deep

This saddle will carry—
approx. : 90-ft. ½" ,,
,, 60-ft. ⅝" ,,
,, 50-ft. ¾" ,,

15/- each

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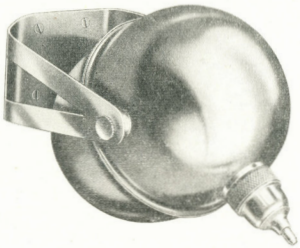
FOREMOST IN 1865 **MYSTO** STILL THE BEST

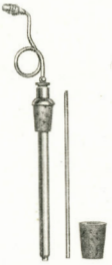


SOAP DISPENSER

The bowl is made of Copper tinned inside, fitted with Brass Nozzle and Bracket. Heavily Chromium-plated.

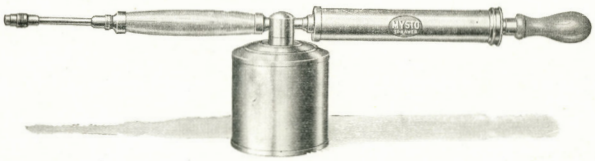
26/- each
(Plus Purchase Tax).

BOTTLE SPRAYER



Single action Bottle Sprayer fitted with external stuffing box for adjustment. This prevents any back-wash of water. The extension supplied screws into the end of the tube.

No. **I.S.A.** . . . . . **8/6** each
No. **I.S.A.** with 6″ metal extension, or 6″ rubber **11/-** ,,



No. 144—ALL-BRASS CONTINUOUS SPRAYER

Strongly made and very useful, with Nozzle giving extremely fine atomization. Capacity 1½ pints.

Polished Brass . **40/- each**

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

PNEUMATIC SPRAYERS

No. 6

PNEUMATIC TRIGGER RELEASE HAND SPRAYER

Brass Container, polished and lacquered Brass Pump and Fittings. Capacity two pints.

40/- each

Bent Spraying Lance, 5/- each extra.

No. 5

PNEUMATIC HAND SPRAYER

Container is of polished Copper, the Pump and fittings being of Brass. Filler Cap is fitted with Automatic Safety Valve, Spray Lance and Shut-off Tap. The handle being tubular, it is easily fitted to a pole or Bamboo Lance for spraying grapes or tall plants, beyond the reach of the ordinary sprayer.

4-pint size .	**86/6 each**
6-pint size .	**97/6 ,,**

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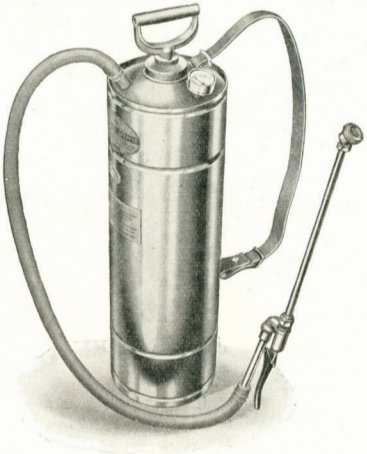
FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. 155

PNEUMATIC SPRAYER

Pump and fittings of non-corrosive brass alloy, suitable for all spraying mixtures. Complete with 42″ best $\frac{3}{8}$″ bore Spraying Hose, two brass Hose Clips, Lance with Automatic Release, two Nozzles, one Webbing and Leather Shoulder Strap, **Pressure Gauge** and self-contained Removable Pump.

	each
1 gallon	
Brass Container . .	123/-
Galvanized Steel Container	109/-
2 gallon	
Brass Container . .	140/-
Galvanized Steel Container	124/-
3 gallon	
Brass Container . .	159/-
Galvanized Steel Container	140/-



KNAPSACK PNEUMATIC SPRAYER

Heavy Pattern.

Container made of non-corrosive brass alloy, suitable for corrosive liquids. Automatic Release, 42″ $\frac{3}{8}$″ bore high pressure Spraying Hose, Single Swivel Needle Spring Nozzle, **Pressure Gauge,** Shoulder Straps, self-contained Pump, Spanner and Strainer for filling.

No.	Tank Galls.	Capacity Working Galls.	Weight Lbs.	each
7	$1\frac{1}{2}$	1	$10\frac{3}{4}$	225/-
8	$2\frac{3}{4}$	2	$13\frac{3}{4}$	270/-
9	4	3	17	315/-
10	5	4	$18\frac{1}{2}$	355/-

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

KNAPSACK SPRAYER

No. 1
Polished Copper Container
(for non-corrosive liquids)
180/- each

No. 3
Tinned Copper Container
(for corrosive liquids)
195/- each

For spraying Vines, Fruit Trees, Hops, Potatoes and destruction of Charlock. Strong polished Copper Container and polished brass fittings. Complete with Brass Strainer, Steel Spanner, moveable double Spraying Nozzle for potato spraying. Webbing and Leather Shoulder Straps, 42 inch Hose and Delivery Lance. Capacity 3½ gallons. Weight 15½ lbs.

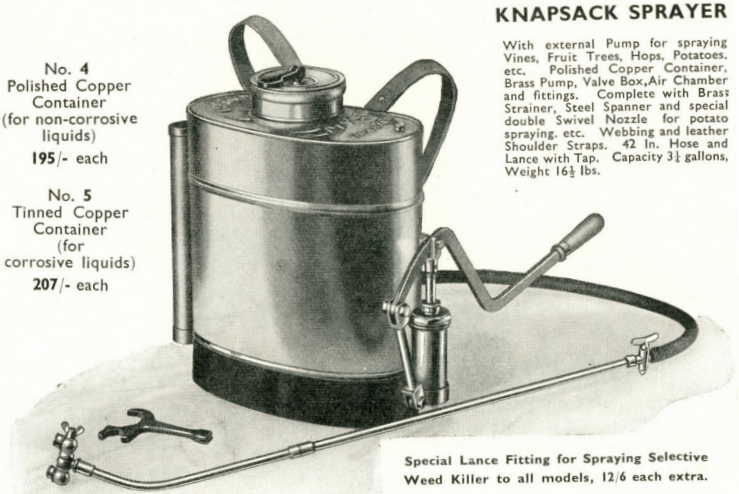
INTERNAL PUMP.

Can also be supplied with Agitator at an extra cost of 33/-.

KNAPSACK SPRAYER

No. 4
Polished Copper Container
(for non-corrosive liquids)
195/- each

No. 5
Tinned Copper Container
(for corrosive liquids)
207/- each



With external Pump for spraying Vines, Fruit Trees, Hops, Potatoes, etc. Polished Copper Container, Brass Pump, Valve Box, Air Chamber and fittings. Complete with Brass Strainer, Steel Spanner and special double Swivel Nozzle for potato spraying, etc. Webbing and leather Shoulder Straps. 42 In. Hose and Lance with Tap. Capacity 3½ gallons, Weight 16½ lbs.

Special Lance Fitting for Spraying Selective Weed Killer to all models, 12/6 each extra.

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. 12

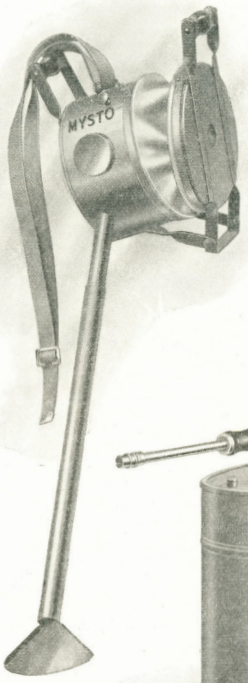
POWDER BLOWER

Reg. No. 841420.

Steel enamelled green Leather Bellows, Wood Hand Grips and Web Shoulder Strap with brass fittings. Suitable for all ground crops. A Control Valve regulates output volume.

Capacity 8 to 12-lbs.

71/- each



No. 41—**KNAPSACK SPRAYING OUTFIT**

Three-gallon Container, complete with Strainer, two Webbing Shoulder Straps and necessary fittings for attaching Ladywood Spray Pump, as illustrated. Galvanized . **123**/- each
Copper . **155**/- each Tinned Copper . **163**/- each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

DISINFECTANT HAND SPRAY
BABY MYSTO

No. **21**

Capacity ½-pt.

A useful Spray for Disinfectants and Hormones. Made entirely from Brass Chrome-plated.

21/- each

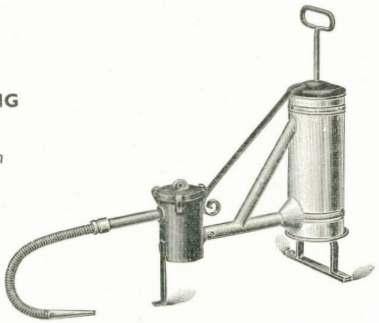
POULTRY SINGEING LAMP

For use with gas

All Brass with Black Wood Handle.
No. **51** . . . **14**/**9** each
No. **52** With Bye-pass . **18**/- ,,

" MYSTO " ANT EXTERMINATING MACHINE

Prices and full details on application



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FOREMOST IN 1865 **MYSTO** STILL THE BEST

LIMEWASHING & SPRAYING PUMPS

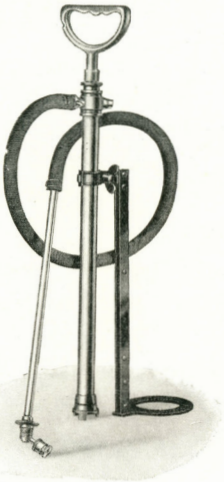
No. **135**

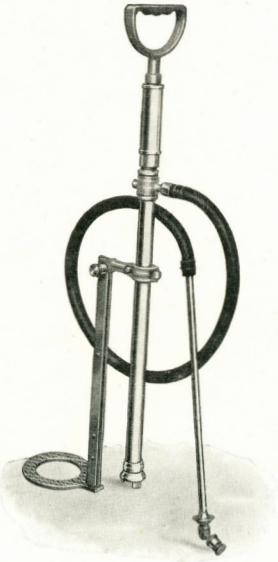
SPRAY PUMP

Strong double action Brass Pump with adjustable wrought iron foot. Complete with 42″ of ⅜″ bore spraying hose and 15″ Lance with fixed jet and uncloggable Limewashing Nozzle, set at 45° to facilitate spraying of foliage and underneath leaves.

Approx. net weight, 5½-lbs.

52/- each





No. **35**

SPRAY PUMP

Strong double action Brass Pump fitted with improved air chamber, adjustable wrought iron foot. 42″ of ⅜″ bore spraying hose, 15″ Lance with fixed jet and Limewashing Nozzle, set at 45° to facilitate spraying of foliage and underneath leaves, etc.

Approx. weight, 5½-lbs.

56/- each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. 33

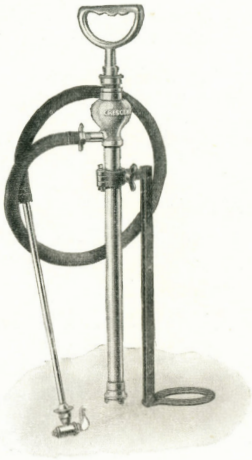
CRESCENT SPRAY PUMP

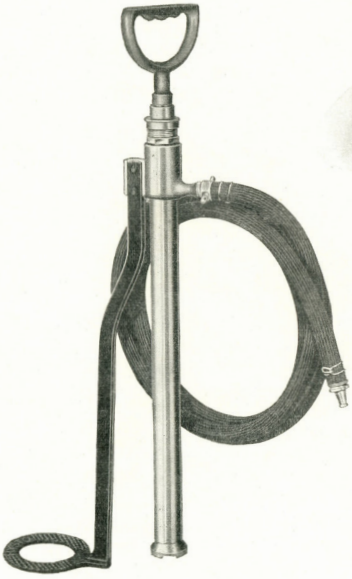
Heavy Popular Pattern

Brass Pump with strong cast malleable iron adjustable Stirrup Foot. 42″ of ⅜″ bore Spraying Hose, Brass Lance and Bordeaux Nozzle.

Approx. net weight, 7½-lbs.

69/- each





No. **134**

FIRE PUMP

Latest design of Stirrup pump. Fitted with all-metal piston and designed to give a good throw of water.

80/- each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

No. **0**

UTILITY

A very convenient model Powerful double-action Brass Pump, 4-gallon container, 42″ of ⅜″ bore Hose, **Brass Lance with Stop-cock,** Uncloggable Lime-washing Nozzle and Spraying Nozzle, also all-metal Strainer with Handle.

112/- each

THE SWIFT

Extra powerful double-action Brass Pump with Air Chamber, thus increasing the force. 6-ft. of best high pressure ⅜″ bore Hose, polished brass Spraying Arm with Stop-cock, one Limewashing and one Spraying Nozzle, complete in strong galvanized iron Container. Capacity 4 gallons. Strong perforated all-brass Strainer.

138/- each

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FOREMOST IN 1865 **MYSTO** STILL THE BEST

THE BAILIFF

This powerful double-action brass Pump is fitted with lever and air chamber, thus increasing the force. 6-ft. of the best high pressure ½" bore Armoured Hose, polished brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. Complete in strong galvanized iron Container, Capacity 6 gallons. Strong perforated all-brass Strainer.

178/- each

THE WINCHESTER
10 Gallon

Powerful double-action Brass Pump with 10-ft. best high pressure ½" bore Hose. Polished Brass Spraying Arm with Stop-cock. One Limewashing and one Spraying Nozzle. Strong galvanized iron Container, with strong perforated all-brass Strainer. 9" diameter Wheel with rubber tyre.

£18-0-0 each

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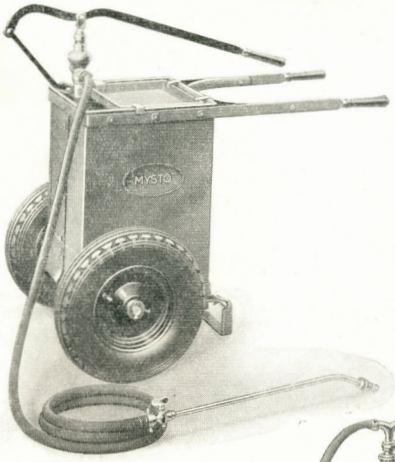
Appendix 36 (26) - Catalogue 101/51

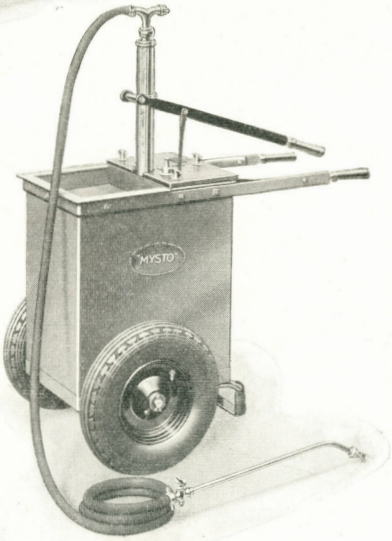
FOREMOST IN 1865 **MYSTO** STILL THE BEST



THE HEREFORD

Powerful double-action Brass Pump. 15-gallon Container. 15" Pneumatic Wheels. 10-ft. best quality hose with Brass Spraying Lance. One Limewashing Nozzle and one Jet.

£27-10-0 each



THE SHREWSBURY

18 Gallon

Very powerful 2" capacity Pump, with 2-way swivel outlet. Strong Container complete with Agitator 12-ft. best quality ½" bore Hose, polished Brass Spraying Arm with Stopcock, one Limewashing and one Spraying Nozzle ; also strong perforated all-brass Strainer. Strong axle. Pump can be used efficiently, if required. with two lengths of Delivery Hose. Pump easily detached by removing three wing nuts. Complete as illustrated, with rubber tyres.

£36 - 10 - 0

Additional 12-ft. length of Hose, complete with Unions, Brass Spraying Arm with Stopcock, one Lime-washing and Spraying Nozzle, **42/9**.

Page 24

W T French

Appendix 36 (27) - Catalogue 101/51

FOREMOST IN 1865 **MYSTO** STILL THE BEST

HANDYMAN MINOR PAINT SPRAYER

A really useful apparatus to have in the home. It comprises a powerful Brass Hand Pump fitted into a strong Air Storage Cylinder with Pressure Gauge, 6-ft. of Rubber Hose, Spray Pistol with Trigger Air Control, and three Glass Paint Containers with air-tight lids.

Complete as illustrated . **108**/- each

Additional Paint Containers . **18**/- dozen extra

HANDYMAN PAINT SPRAYER

This model is similar to the "Minor," but has a powerful Brass Foot Pump, which is easier to work than a hand pump. This outfit will give long and excellent service.

Complete as illustrated, **125**/- each

Additional Paint Containers, **18**/- dozen extra.

For efficient operation the foot pump must be worked continuously.

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W T French

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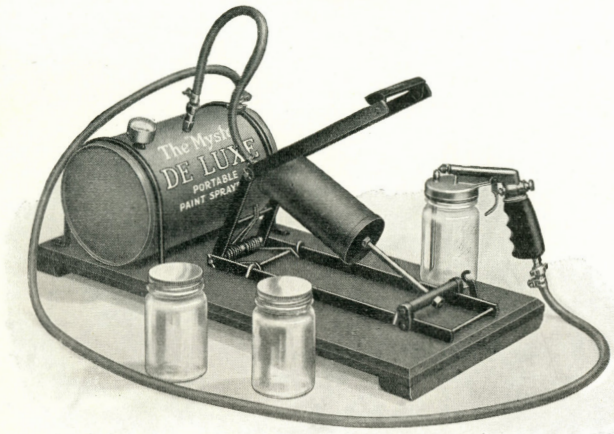
FOREMOST IN 1865 **MYSTO** STILL THE BEST



HANDYMAN DE-LUXE PAINT SPRAYER

This is a substantial workmanlike outfit, built to give long, hard and efficient service in the Workshop or Garage. The powerful 3″ diameter Brass Foot Pump provides ample air for large jobs. The Air Storage Cylinder is fitted with a Pressure Gauge, also a Non-Return Valve, which obviates any loss of air pressure back through the Pump. The Foot Pump and Air Storage Cylinder are securely fixed to a base board. The Spray Pistol is well-balanced and is fitted with Trigger Air Control. The outfit is complete with 6-ft. of good strong rubber Hose and three Glass Paint Containers. These Paint Containers have special screw-on air-tight lids, this enables you to store paint in them, when not in use, for almost any length of time without congealing or wasting.

Complete as illustrated . . .	**150**/- each
Additional Paint Containers . .	**18**/- dozen extra

For efficient operation the Foot Pump must be worked continuously.

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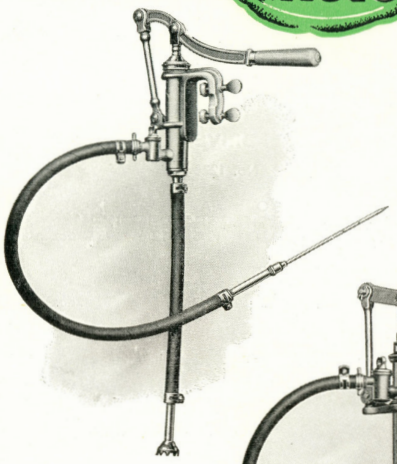
W T French

Appendix 36 (29) - Catalogue 101/51

FOREMOST IN 1865 **MYSTO** STILL THE BEST

BUTCHERS' SALTING PUMPS



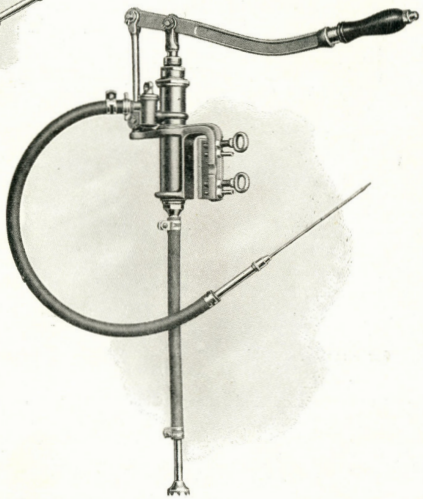
No. **45**

BRINE PUMP

All Brass Pump and Bracket. Nickel-plated 1½" size with 30" of ⅜" Delivery Hose and 15" of ½" Suction Hose. Complete with Suction and Needle.

91/- each

Spare Needles, **5**/**3** each



No. **44**

BRINE PUMP

Double-action

1¾" size with all-Brass Metal Piston, Nickel-plated outside, Tinned inside. Complete with 30" of ⅜" Delivery Hose, Needle and 15" of ½" Suction Hose.

178/- each

Spare Needles **5**/**3** each.

No. **105**—**SALTING SYRINGE**

Nickel-plated Syringe with Stuffing Box, well finished. Tinned inside. Barrel of Syringe is so made that each end can be screwed off for cleaning purposes. Special Nickel-plated Needle 7" long supplied, as illustrated, with point to screw off.

½-pint, size 1½" x 14" . **28**/- each. Spare Needles, **5**/**3** each.

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W T French

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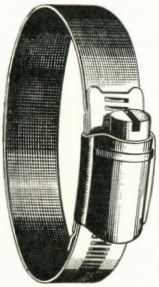
FOREMOST IN 1865 **MYSTO** STILL THE BEST

PNEUMATIC COUPLINGS.



STEEL WORM-DRIVE HOSE CLIPS

No. 122

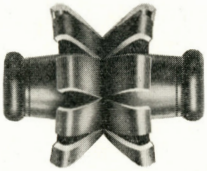
Nos.	M-OO	OO	O	IA	I	IX	
Sizes	7/16"-9/16"	1/2"-3/4"	5/8"-1"	7/8"-1 1/4"	7/8"-1 1/2"	1 3/8"-1 5/8"	
	11/3	11/3	11/3	12/6	12/6	13/-	dozen

Nos.	2A	2	2X	3	
Sizes	1 3/8"-1 7/8"	1 3/8"-2 1/8"	1 3/4"-2 1/4"	2"-2 3/8"	
	13/-	13/-	15/-	16/3	dozen

Nos.	4	5	6	
Sizes	2 5/8"-3 1/2"	3 3/8"-4 1/2"	4 1/2"-5 1/8"	
	18/6	19/9	20/3	dozen

THE CLAW PATTERN HOSE REPAIRER

No. 23
Heavy Pattern
For
Pneumatic, Air, etc. Hose.



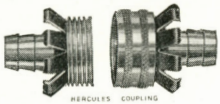
No. 23
For Pneumatic Oxy-Acetylene Hose.

For Hose .	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"	
	14/3	14/3	14/3	14/3	19/-	25/3	27/9	29/-	38/-	47/6	doz.

No. 24 (**Fitted Extra Large Claws**) For Hose 1/2" 17/6 3/4" 27/- ,,

THE " HERCULES " PATTERN COUPLING

No. 26
Heavy Pattern
For
Pneumatic, Air, Hose, etc.



No. 26
For Pneumatic and Industrial Hose.

For Hose	1/4"	3/8"	1/2"	5/8"	3/4"	1"	
	38/-	76/6	132/6	155/6	170/-	216/-	per dozen

The " HERCULES " Heavy Patterns have Renewable Claws.

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W T French

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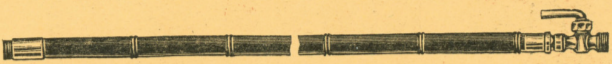
FOREMOST IN 1865 **MYSTO** STILL THE BEST

LIMEWASHING AND SPRAYING MACHINE ACCESSORIES



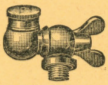
BAMBOO EXTENSION LANCE

No. 113 6′ 6″ .. 57/6 each
No. 113A 8′ 0″ .. 63/- „
No. 114 10′ 6″ .. 68/6 each
No. 115 13′ 0″ .. 76/- „

Please state for which machine when ordering

No. 615A
¼″ CAP AND LINING
2/6 each

No. 151
PRESSURE GAUGE
14/6 each



No. 68
SINGLE SWIVEL NOZZLE
10/9 each

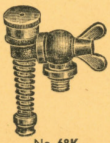
No. 69
DOUBLE SWIVEL NOZZLE
12/6 each

No. 78
COMBINED JET & BORDEAUX or Crescent Spraying Nozzle
10/9 each

No. 75
SPRAYING NOZZLE
6/3 each

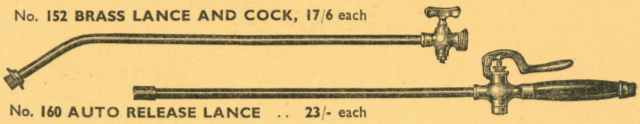
No. 76
UNCLOGGABLE LIMEWASHING NOZZLE
9/- each
Please state Screwing when ordering

No. 150
DISC NOZZLE
10/9 each



No. 68K
SINGLE SWIVEL NEEDLE SPRING NOZZLE
10/9 each

No. 152 BRASS LANCE AND COCK, 17/6 each



No. 160 AUTO RELEASE LANCE .. 23/- each

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W T French

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1951

CATALOGUE 101/51

ERRATA

Page 8. Centre of page, delete "Grips and".

Page 9. Brass Hose Wires No. 600, delete "For use in conjunction with No. 214 Joints

Page 10. No 25. for 3/8" read 5/8".

Page 12. Brass Hose Clips, for 120 read 613.
Note: an asterisk should appear above 7/8", 1" and 1 1/8" and before the words, "for corrugated Hose sizes."

W. T. FRENCH & SON LTD.

W T French

Appendix 37 - Advertisement 1918

TRADE "MYSTO" MARK.

"MYSTO" SPRAYERS

70/-

Stocked by all the Leading Ironmongers and Agricultural Implement Dealers.

MYSTO

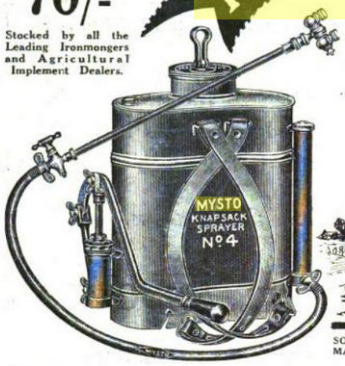
Use a "MYSTO"

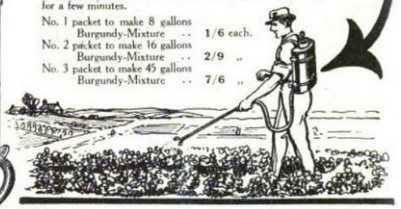
and make your land yield more and bring you bigger profits. It will safeguard your crops against disease and blight. *Now* is the time to buy one.

The "MYSTO" Burgundy-Mixture Powder

is a standard preparation which is readily soluble in cold water, and which contains in itself the copper and soda salts dried and reduced to fine powder, blended in due proportions, and tested and proved free from burning properties. To produce "Burgundy-Mixture" for potato spraying all that is required is to dissolve the "MYSTO" powder in the number of gallons of cold water specified, and stir vigorously for a few minutes.

No. 1 packet to make 8 gallons Burgundy-Mixture .. 1/6 each.
No. 2 packet to make 16 gallons Burgundy-Mixture .. 2/9 ,,
No. 3 packet to make 45 gallons Burgundy-Mixture .. 7/6 ,,





SOLE MAKERS: W. T. FRENCH & SON, "MYSTO" WORKS, LADYWOOD, BIRMINGHAM.

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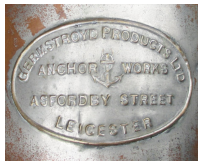
Chapter 21

Germstroyd Products Ltd

GERMSTROYDE PRODUCTS LTD

Germstroyd Products Ltd

Anchor Works, Ashfordby Street, Leicester and Hypro Works Attneave Street, London WC1. Also known as Germstroyd Ltd.



In operation from 1945 to 1970.

Disinfectant manufacturer.

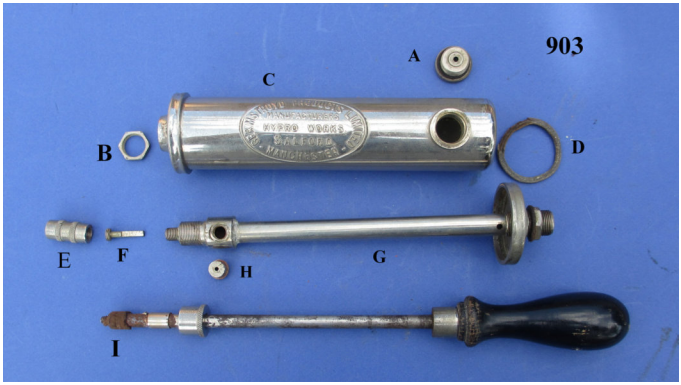
Products include vaporisers for use in dispensing their disinfectants. Including the cylindrical type and also small pneumatic sprayers. These were made in brass and also with a nickel plated finish. There are also blowlamps with their logo. Some of the vaporisers are marked ‘ENOTS’ as well as having the Germstroyd label. Possibly Benton and Stone Ltd made all the Germstroyd sprayers. However, there is no documentary evidence for this.

In December 1947 they have an advertisement in Kinematograph Weekly for the Germstroyd disinfectant. The advertisement is particularly aimed at theatre and cinema managers. Similar advertisements appear in other newspapers and publications in the 1940s. In 1967 Germstroyd are advertising in the Birmingham Daily Post for a Sales Representative.

Above :- [263] {2} Germstroyd vaporiser. Barrel length 16 inches. They also made a shorter version of this design which is very similar to the Benton & Stone vaporiser.

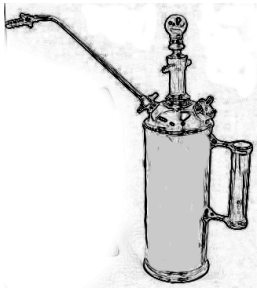
Above :- [903] {4} Germstroyd vaporiser. Barrel length 7 inches. Unlike similar looking vaporisers this one can be dismantled in a non-destructive manner. The barrel end cap is not soldered on and the complete internal barrel unit can be removed by unscrewing the large nut to the rear of the nozzle. This is probably a late version of this type of sprayer. It has only one valve. To prevent air being sucked into the sprayer on the pull stroke, the user is instructed to place a finger over the nozzle.

GERMSTROYDE PRODUCTS LTD



Above :- [903] Components of Germstroyd Vaporiser. (A) Filler cap incorporating a spring loaded air intake valve. (B) Securing nut for internal barrel. (C) The external barrel which acts as a container for the fluid being sprayed. (D) Barrel end cap sealing washer. (E/F) The spray nozzle showing the spray plug. (G) The internal pump barrel. (H) The main valve controlled by a ball. (I) The piston rod and piston.

On the pull stroke valve (H) open. Liquid is sucked in from the outer barrel into the inner barrel. On the push stroke valve (H) closes and liquid is forced through the spray nozzle. There appears to be only the one valve. The piston consists of back-to- back cup washers which are probably rubber (now degraded). Wooden handle.

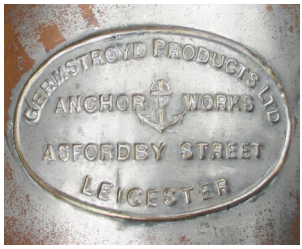


Left :- Drawing of a Germstroyd small pneumatic sprayer. Container height 10 inches. Diameter 4 inches. This looks exactly like the Benton & Stone small pneumatic (pictured right).

GERMSTROYDE PRODUCTS LTD

Above :- [911] {5} The larger version with a 'D' shaped handle. Container height 7 inches with a diameter of 5 inches. Working capacity about2 ½ pints. Originally chromium or nickel plated.

GERMSTROYDE PRODUCTS LTD



Above :- [911] The pump barrel on this sprayer is 7 inches long and 1 inch in diameter. It appears to b of stainless-steel. The pump valve is not easily accessible. The piston has a single leather cup washer with a buffer spring. It has a separate filler but the pump barrel can easily be removed if required. The pump handle is designed so that it can be used as a carrying handle. Missing the nozzle which would have been something like the one used on the smaller pneumatic. The riveted construction and the general design give the impression that this is an early sprayer and probably pre WW II. It is the type of sprayer used in hospitals, cinemas and theatres for disinfecting.

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Chapter 22

R Harris (Brassfounders) Ltd

#Harris

R Harris Ltd

R. Harris (Brassfounders) Ltd.

Known from various Birmingham addresses :-.

12 Tower Street, Birmingham, 17/18 Buckingham Street. 55 Newhall Hill, 109 Pope Street, 11 Carver Street.

R Harris (Brassfounders) Ltd came into being on 31st December 1925 when the company was recorded by the Registrar of Companies. This followed a meeting held on 23rd December 1925 at which the two named directors, H E Jefferies and J Lilly set the business up. The stated nominal capital was £2,000 comprising of 2,000 £1 shares. The registered office was at that time 12 Lower Tower Street, Birmingham and both men gave their occupations as brassfounders and both men resided in Birmingham. This new company appears to have replaced a pre-existing company named Reuben Harris who was listed in the 1924 Kelly directory as also being located at 12 Lower Tower Street. From tracing their presence in earlier Kelly Directories they had been trading since 1890 at least, and possibly earlier. The 1891 census records that a Reuben Harris who gave his profession as a Brass Maker lived at an address in Burberry Street. The 1890 and 1892 Kelly indicates that a company known as Reuben Harris traded from Vine Works, 17 Burberry Street. A document dated 30 December 1931 indicated that the registered office moved to Rosenjet Works, 17/18 Buckingham Street, Birmingham.

The 1 January 1937 saw two new directors being elected. These were Mrs H M Jefferies and Mrs M R Lilly. The document indicated that Mr J Lilly was both a director and secretary to the company. A letter dated February 1943 reveals that the registered office had moved once again to 55 Newhall Hill, Birmingham 1, the main directors were listed as being H. E. Jefferies and J. Lilly. The letter also advises that the company was established in 1867 and that they were using a trademark 'The ROSENJET'. A price list, dated February 1942, obtained with the letter further reinforces this as the telegraphic address was given as "ROSENJET", Birmingham. Among the sprayers featured in the price list is The "Rosenjet" syringe (Patent GB217297A dated 10 June 1924 by Joseph Lilly) which threw a rose spray, or jet simply by turning the syringe in the hand. Its dimensions were given as 18 x 1½ (inches) and was priced at 70 shillings per dozen.

R Harris Ltd

An Extraordinary General Meeting (EGM) held on 29 April 1954, held at Rosenjet Works, 55 Newhall Hill, B1 resulted in the share capital being increased from £2,000 to £5,000. Interestingly, the document submitted to the Registrar of Companies was signed by a J B H French (John Brian Hall French). Investigation has revealed that J B H French was the son of A W French. A W French is shown in the Birmingham Chamber of Commerce section of the 1924 and 1934 Kelly and is known to have been involved with W T French & Son Ltd.

A further EGM held on 8 August 1957 again at 55 Newhall Hill shows that the share capital was again increased, this time from £5,000 to £10,000; the document was submitted once again by J B H French. On 26 January 1960 an EGM held at 40-42 Great Charles Street, Birmingham 3 resulted in the share capital being increased again from to £15,000 by the creation of 4,000 7.5% redeemable preference shares. These were allotted to directors of the company including J B H French who at this time was the Chairman, as well as G M French (nee Gillian Horton married J B French July 1953) and K M Waters.

The 12 August 1964 saw a number of events taking place. An EGM took place at the registered office, now shown as 109/111 Pope Street, Birmingham 1 when the share capital as again increased, this time to £40,000 by way of 10,000 ordinary shares and 15,000 unclassified shares all of £1. This was signed by J B H French as Director and G M French as Chairman. In addition, a special resolution for Bonus issue on Capitalisation was agreed with the 14,000 shares being distributed to A A Gallett, A W French, J B H French and G M French and the document signed by G M French, K M Waters and J B H French.

R Harris (Brassfounders) changed its name on 10 October 1966 to Spraygen Sprayers Ltd. April 1973 saw what was probably the biggest change in the make-up of the company when J B H French resigned as Secretary and a number of new directors were appointed including R D Hill Ling from South Australia following the acquisition of Spraygen Sprayers by Hills Industries on 11 April 1973. A document dated 12 April 1973 records that the registered office was changed to Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, Mid Glamorgan, South Wales.
The end of year returns in the records indicate that after the takeover by Hills Industries Spraygen Sprayers ceased to trade.

R Harris Ltd

For a while its principal activity was to operate as a commission agent, but from 1991 its principal activity was to receive interest on the amount owed by its immediate holding company.

R Harris Ltd (Spraygen) was the manufacturer of various sprayers including syringes, self supplying sprayers and small pneumatic sprayers. Advertisements also show that they made oiling syringes and pumps and salting syringes and pumps.

Trademarks - SPRAYGEN, SPRHAO, ROSENJET

Patents

Joseph Lilly and R Harris (Brassfounders) have a number of patents. Those listed below are related to sprayers in some way. Some seem to have been implemented by W T French & Son. This may show some degree of cooperation between the two companies.

GB233427A dated 8 May 1925. Joseph Lilly, and Sidney T Lilly. Improvements to hosepipe clips.
GB243810A dated 7 December 1925.Joseph Lilly. Method of fixing a pump to a vessel.
GB243101A dated 26 November 1925**.** Joseph Lilly. A method for providing a valve on a piston rod using the cup washers. Similar to the sliding valve. Not known to have been implemented on R.Harris sprayers.
GB252107A·dated 20 May1926. Joseph Lilly. Adjustable spray nozzle. I have not seen this implemented on any sprayers.
GB217297A dated 10 June 1924. Joseph Lilly. The ROSENJET patent.
GB262355A dated 9 December 1926. Joseph Lilly. Adjustable spray nozzle which uses allows the nozzle to be turned to adjust the spray. Not seen implemented.
GB309725A dated 18 April 1929. Joseph Lilly. Adjustable spray nozzle using a tap like screw to alter the flow. Something similar is seen on some sprayers by other manufacturers.
GB768249A dated 13 February 1957. Harris Brassfounders Ltd. Inventor John Brian Hall French. Air chamber on double action sprayer.
GB817008A dated 22 July 1959. Adjustable spray nozzle. A method of changing the spray by turning the nozzle. Inventor John Brian Hall French. Implemented in Model 210.

R Harris Ltd

GB836460A dated 1 June 1960. Polythene container for attaching to continuous action sprayer.
GB928380A dated 12 June 1963. Lawn sprinkler improvements.
GB1076887A dated 26 July 1967- Method of lifting a pressure sprayer.

Models - HILLS, HYDRANT, SABRE, SPRAYSAC, STREAMLINE, WUNDA. Sprayers were usually given a model number. These include 31, 131, 146, 200, 208, 210, 212, 909.

Sprayers

R Harris Ltd mainly produced a range of syringe sprayers. They also produced four types of self supplying sprayers and, a small pump sprayer. Later they manufactured a range of pneumatic sprayers.

S**yringe Sprayers**

The company was formed to take advantage of the patent for the two way syringe known as the ROSENJET. The predecessor company Reuben Harris may have produced garden syringes, but they may not have been marked. The ROSENJET patent was GB217297A by Joseph Lilly. This was applied for on 10 March 1923 and accepted on 10 June 1924. The ROSENJET syringe was supported by an extensive range of other syringes which appear to have been aimed at the amateur gardener. Initially these were sold under the ROSENJET, SPRAYGEN and SPRHOA brand name. After the takeover by Hills a few syringes were sold under the Hills Brand. Note that this is not Ernest H Hill which was a separate company.

The SPRAYGEN logo was often applied as a decal or sticker and these can wear off leaving a distinctive rectangular mark. Some logos appear to be stickers with a paper backing while other are true decal paint transfers.

The syringe sprayers were still being produced into the 1970s. For this reason, many have survived together with their boxes. The SPRHAO sprayers have metal plates. A rare decal in black gold and green is used on some syringes not all of which have the ROSENJET nozzle. The ROSENJET syringe was also supplied to Condrup Ltd under the name CON TWO-WAY.

R Harris Ltd

Syringes can be fitted with spray heads which have separate fast fast-fill valves or with integrated fast-fill valves. Those with separate fast-fill valves are either controlled by a ball or by a tack-like component with a washer. There is some variation in the way they are constructed. Rose and jet nozzles when provided do not have fast-fill valve. Integrated fast-fill valves are a hexagonal stud which is usually free the fall out if the cap is removed. The two main versions of these are one which has a rounded top and the other which has nipple like top usually with a small washer.

Pistons are mostly back-to-back leather cup washers, but there are some sprayers with cotton packed pistons. Some use of a special lock nut to secure the cup washers. Piston rods are either solid steel, solid brass or hollow brass rods. There is also a plastic piston rod. Handles can be made of wood or can be in plastic of various colours. Many have a spring on the piston rod to buffer the piston on the pull stroke. The majority have brass barrels but there is one with all plastic components. All have an air vent in the barrel.

Left :- ROSENJET plate.

Right :- R H ROSENJET BRAND decal.

Right :- SPRAYGEN logo. Either a sticker with a paper backing or a decal. This is the one most commonly found.

Right :- SPRAYGEN logo on a paper sticker. Used later than the above version.

R Harris Ltd

Above :- SPRHAO plates. The one on the left forms a cap over the air vent.

Right :- Hills Industries logo. Sticker with a paper backing.

Above :- A typical spray head with a separate fast-fill valve. Left is the spray plug. Right is the fast-fill valves tack-like stud and the screw in component which holds it in place. Note the tiny washer on the stud.

Left :- The point of the stud is visible in normal use. No other manufacturer I am aware of uses this form of fast-fill valve.

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Left :- Interior of spray head which uses a ball fast-fill valve. Normally held in with a screw in component which is open to allow liquid to flow through it. The design of this varies.

Left :- Fast-fill valve controlled by a ball. In this example the ball is held in the closed position against a small spring.

Left :- Integrated fast-fill valve controlled by a hexagonal stud with a rounded top which seals it against the inside of the spray cap when spraying, The stud is free to fall out when the cap is removed.

This is probably an early version of the fast-fill valve used by R. Harris.

Left :- Integrated fast-fill valve controlled by a hexagonal stud with a nipple top which has a small washer to provide a tight seal when spraying. The stud is free to fall out when the cap is removed. This is the most commonly found version and probably the later of the two.

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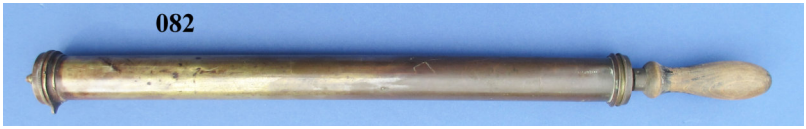
Syringes

ROSENJET Syringes



Above :- [082] {2} ROSENJET sprayer. Brass barrel length 18 inches and diameter $1^{7}/_{16}$ inches. Fixed ROSENJET nozzle. Pistons is a 1 inch cotton reel. Brass piston rod $^{5}/_{16}$ inch in diameter. It has the patent number engraved on the barrel.

Left :- [082] Engravings on the barrel.

Left :- [082] The piston.

Left :- [082] The nozzle.

Above :- [004] {2} ROSENJET sprayer. Brass barrel length 18 inches and diameter $1^{7}/_{16}$ inches. Fixed ROSENJET nozzle. Pistons are back-to-back leather cup washers. Spring on piston rod. Solid brass piston rod .

Above :- [078] {2} ROSENJET sprayer. Brass barrel length 18 inches and diameter $1^{7}/_{16}$ inches. Fixed ROSENJET nozzle. Pistons are back-to-back leather cup washers. Spring on piston rod. Steel piston rod .

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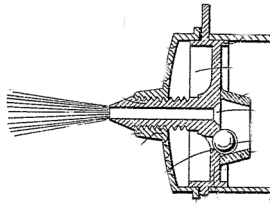
Left :- The RoseNJet spray head works either as a jet or rose depending on which way up the sprayer is held. The picture (left) shows the mechanism with the rose head removed. The nozzle assembly is soldered onto the barrel end and is only partially accessible. The ball valve is on the inside. The ball moves as the sprayer is turned to block one of the outlets. During filling the ball moves away from both outlets.



Sprhao Syringes

Above :- [090] {2} Model 109 SPRHAO CHAMPION. Brass manufacturer's plate. Barrel length 14 inches and diameter 1 inch. Fitted with a Purser type drip preventer 7 inches long. Removable spray head fitted with a fast-fill valve onto which fits the spray nozzle, the rose nozzle, or the jet nozzle. There are alternative spray caps for spray nozzle. Both of these have their own spray plug. The sprayer has a hollow brass piston rod fitted with a cotton reel piston supplemented by a forward facing leather cup washer. It is also fitted with a stuffing box.

Above :- [284] {2} Model 109 SPRHAO CHAMPION. Brass manufacturer's plate, Barrel length 20 inches and diameter 1 inch. Fitted with a Purser type 7 inch drip preventer. Spray nozzle with a separate fast-fill valve controlled by a ball. The ball is held in by a screw fitting which has a circular aperture. It has alternative spray caps for spray nozzle. Both of these have their own spray plug. There is a rose nozzle and a jet nozzles with holders for these on the drip preventing sleeve. Stuffing box. Hollow brass piston rod fitted with a back-to-back leather cup washer piston.

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Above :- [186] {2} Model 109 SPRHAO CHAMPION. Brass manufacturer's plate, Barrel length 20 inches and diameter 1 inch. Fitted with a Purser type 7 inch drip preventer. Spray nozzle with a separate fast-fill valve controlled by a ball. The ball is held in by a screw fitting which has a circular aperture. It has alternative spray caps for spray nozzle. Both of these have their own spray plug. There is a rose nozzle and a jet nozzles with holders for these on the drip preventing sleeve. Stuffing box. Hollow brass piston rod fitted with a back-to-back leather cup washer piston.

Above :- [106] {3} SPRHAO. It has SPRHAO on a plate which covers the air vent. Barrel length 16 inches and diameter ⅞ inches. The rose nozzle is designed to give a gentle spray. Solid steel piston rod fitted with a back-to-back leather cup washer piston.

Above :- [605] {2} SPRHAO. It has SPRHAO on a plate which covers the air vent (as in [106] above). Barrel length 16 inches and diameter ⅞ inches. Removable spray nozzle with an integrated fast-fill valve. This uses a hexagonal stud with a rounded top and a long stem. Solid brass piston rod fitted with a back-to-back leather cup washer piston.

Above :- [913] {3} SPRHAO. It has SPRHAO on a plate which covers the air vent Barrel length 14 inches and diameter 1 inch. Removable spray nozzle with an integrated fast-fill valve. This uses a hexagonal stud with a rounded top and a long stem. Solid brass piston ¼ inch in diameter. Fitted with a back-to-back leather cup washer piston. Has a spring on the piston rod.

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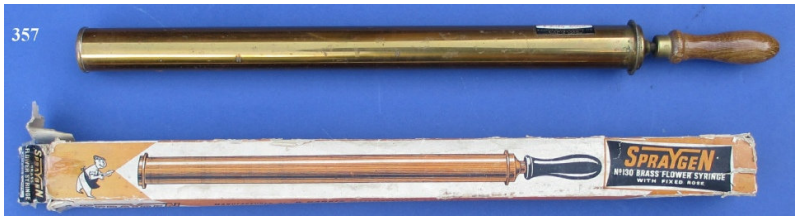
Syringes with Rose and/or Jet Nozzles only



Above :- [357] {1} Model No. 130. New type SPRAYGEN label. Box with 55 Newhall Hill dating the sprayer 1949-1960. Barrel length 18 inches with a diameter of 1½ inches. Provided with a fixed rose nozzle. Solid steel piston rod with spring. Piston is back-to-back leather cup washers with a non-slip nut.

Above :- [148] {1} Brass Garden Syringe - no model number. No label. Box with 55 Newhall Hill dating the sprayer around 1949-1960. Barrel length 18 inches with a diameter of 1½ inches. Provided with a rose and a jet nozzle. Solid steel piston rod with spring. Fitted with a forward facing cup washer with large washers on both the inside and outside providing support. This may be a replacement.

Above :- [079] {1} Brass Garden Syringe - no model number. Remains of rectangular label. Barrel length 16 inches with a diameter of ⅞ inches. Provided with a fixed rose nozzle. Solid steel piston rod with spring. Fitted with a back-to-back leather cup washer piston.

Syringes with Spray Nozzles with separate fast-fill valves

These syringes may have the fast-fill valve controlled by a ball or by a tack-shaped component with a small washer. They are sometimes also provided with additional rose and/or jet nozzles. They may or may not have a drip preventing sleeve. These include model 199, 146 and 148.

Left :- The tack-shaped component of many syringes with separate fast-fill valves. Normally held in with a screw fitting with an open centre which may vary in shape, either being square or circular.

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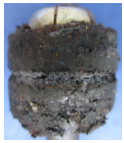
Above :- [003] {1} Model 199. Remains of SPRAYGEN decal. Barrel length 12 inches with a diameter of 1 inch. Removable spray nozzle with a separate fast-fill valve controlled by a tack-shaped component. Solid steel piston rod with spring. Piston is back-to-back leather cup washers. Does not have a lock nut.

Above :- [228] {1} Model 199. SPRAYGEN decal. Barrel length 12 inches with a diameter of 1 inch. Removable spray nozzle with a separate fast-fill valve controlled by a tack-shaped component. Solid steel piston rod with spring. Piston is back-to-back leather cup washers. Does not have a lock nut.

Above :- [036] {1} Model 199. SPRAYGEN decal. Barrel length 12 inches with a diameter of 1 inch. Removable spray nozzle with a separate fast-fill valve controlled by a tack-shaped component. Solid steel piston rod with spring. Piston is back-to-back leather cup washers. Does not have a lock nut. Paper type SPRAYGEN label.

Above :- [203] {1} Model 199. SPRAYGEN decal. Barrel length 12 inches with a diameter of 1 inch. Removable spray nozzle with a separate fast-fill valve controlled by a tack-shaped component. Solid steel piston rod with spring. Piston is back-to-back leather cup washers without a lock nut. Box has the address Newhall Hill, Birmingham which dates it around 1949 to 1960. Note difference in the barrel end cap.



Left :- Example of a SPRAYGEN piston showing the deteriorating leather cup washers and the special lock nut found on some SPRAYGEN syringes.

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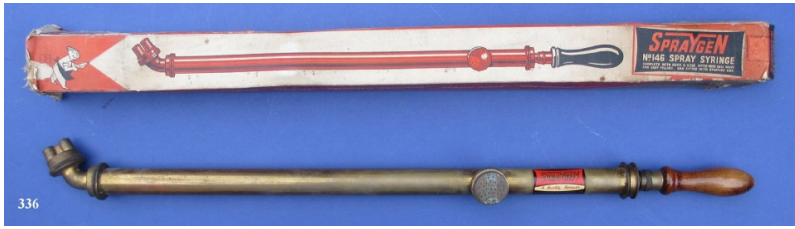
Above :- [068] {1} Model 199. Paper backed SPRAYGEN label. Barrel length 12 inches with a diameter of 1 inch. Removable spray nozzle with a separate fast-fill valve controlled by a tack-shaped component. Solid steel piston rod with spring. Piston is back-to-back leather cup washers with a lock nut. Box has the address Pope Street, Birmingham which makes it around 1964 or later.



*Above :- [336] {1} Model 146. SPRAYGEN decal on barrel. Barrel length 20 inches with a diameter of 1 inch. Exchangeable nozzle and bend. Spray nozzle with a separate fast-fill valve controlled by tack-shaped component with a small washer. Rose nozzle and holder. Solid **brass** piston rod with spring. Back-to-back leather cup washers. Box with 55 Newhall Hill address which dates it around 1945 to 1960.*

*Above :- [103] {1} Model 146. Remains of SPRAYGEN decal on barrel. Barrel length 20 with a diameter of 1 inch. Exchangeable nozzle and bend. Spray nozzle with a separate fast-fill valve controlled by tack-shaped component with a small washer. Rose nozzle and holder. Solid **steel** piston rod with spring. Back-to-back leather cup washers. Green plastic handle.*

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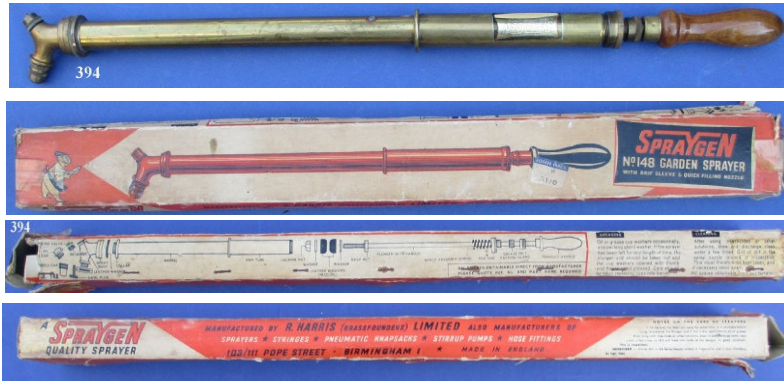

Above :- [394] {1} Model 148. SPRAYGEN label on barrel. Barrel length 16 inches with a diameter of ⅛ inches. Purser type drip preventer 6 inches long. Removable spray nozzle with a separate fast-fill valve controlled by tack-shaped component with a small washer. Solid steel piston rod with spring. Back-to-back leather cup washers. Non-slip nut. Box has 109-111 Pope Street as the address.

Left :- The fast-fill valve from the above. Centre is the tack-shaped component with a small rubber washer. Right is the screw which holds this in place.

Above :- [28] {1} Model 148. SPRAYGEN label on barrel. Barrel length 16 inches with a diameter of ⅛ inch. Purser type drip preventer 6 inches long. Removable spray nozzle with a separate fast-fill valve controlled by tack-shaped component as in [394] above. Solid steel piston rod with spring. Back-to-back leather cup washers.

Above :- [356] {1} Model 148. No label. Barrel length 16 inches with a diameter of ⅛ inches. Purser type drip preventer 6 inches long. Removable spray nozzle with a separate fast-fill valve ***controlled by a ball enhanced with a small spring****. Solid steel piston rod with spring. Piston is back-to-back leather cup washers. Green plastic handle.*

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Above :- [423] {2} Spraygen decal. Barrel length 16 inches with a diameter of 1 inch. Purser type drip preventer 7 inches long. Removable spray nozzle with a separate fast-fill valve ***controlled by a tack-shaped component.*** *Solid brass piston rod with spring. Piston is back-to-back leather cup washers. Rose nozzle. Two spray nozzles. Both of these are complete with spray plugs, but with different orifices.*

Above :- [245] {2} Remains of SPRAYGEN label on barrel. Barrel length 20 inches with a diameter of 1¼ inches. Swivel nozzle which can have a spray, rose or jet cap attached. Holders on barrel for nozzle caps not in use. Separate fast-fill valve controlled by a ***tack-shaped*** *component. Solid brass piston rod with spring. Back-to-back leather cup washers.*

Above :- [604 {2} Remains of SPRAYGEN label on barrel. Barrel length 20 inches with a diameter of 1¼ inches. Swivel nozzle which can have a spray, rose or jet cap attached. Holders on barrel for nozzle caps not in use Separate fast-fill valve controlled by a brass ***ball.*** *Solid brass piston rod with spring. Back-to-back leather cup washers.*

Above :- [120] {2} SPRAYGEN decal on barrel. Barrel length 20 inches with a diameter of 1 inch. Purser type drip preventer 6 inches long. Removable spray nozzle with a separate fast-fill valve controlled by a brass ball. Rose and jet nozzles. Holder on barrel for nozzles not in use. Hollow brass piston rod. Cotton reel type piston. Additional nozzle cap for spray nozzle.

Above :- [119] {2} Same as [120] above, but with a different finish to the drip preventer.

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Above :- [175] {2} Remains of SPRAYGEN paper sticker on barrel. Barrel length 20 inches with a diameter of 1 inch. Purser type drip preventer 6 inches long. Removable spray nozzle with a separate fast-fill valve controlled by a tack-shaped component. Rose and jet nozzles. Holder on barrel for nozzles not in use. Additional cap for spray nozzle. Solid brass piston rod with spring. Back-to-back leather cup washer piston with lock nut. Note that the spray nozzle is not as deep as in other similar sprayers.

Syringes with spray nozzles with integrated fast-fill valve

Above :- [466] {1} R H ROSENJET BRAND decal. Barrel length 16 inches and diameter ⅞ inches. Removable spray nozzle with an integrated fast-fill valve. This uses a hexagonal stud with a rounded top, but without the long stem as in [605] above. Solid steel piston rod fitted with a back-to-back leather cup washer piston. Spring on piston rod.

Above :- [018] {1} Model 200. Remain of SPRAYGEN sticker on barrel. Box with 109/111 Pope Street address. Barrel length 16 inches with a diameter of ⅞ inches. Fixed spray nozzle incorporating bend. Integrated fast-fill valve using a hexagonal stud with nipple and small washer. Solid steel piston rod with spring. Back-to-back leather cup washers. Dates circa 1964. There is another identical sprayer in the collection [54].

R Harris Ltd

Above :- [194] {1} Model 200. SPRAYGEN sticker of the later type the on barrel. Barrel length 16 inches with a diameter of ⅞ inches. Fixed spray nozzle incorporating bend. Integrated fast-fill valve using a hexagonal stud with nipple and small washer. Solid steel piston rod with spring. Back-to-back leather cup washers. Cup washers held in place with a lock nut. Dates after 1964. Green plastic handle. The box has the address 10-12 Carver Street, Birmingham.

Above :- [102] {1} Model 200. SPRAYGEN sticker on barrel. Barrel length 16 inches with a diameter of ⅞ inches. Fixed spray nozzle incorporating bend. Integrated fast-fill valve using a hexagonal stud with nipple and small washer. Solid steel piston rod with spring. Back-to-back leather cup washers. Cup washers held in place with a lock nut. Dates circa 1964 and is later than the wooden handle version. Red plastic handle. The box has the address 10-12 Carver Street, Birmingham.

Above :- [335] {1} It has a Hills Industries logo which dates it after 1973. Other than this and the black handle it is identical to the SPRAYGEN sprayer above [102]. Note that I am only aware of red, green and black plastic handles.

Above :- [126] {2} Model 131. SPRAYGEN sticker on barrel. Barrel length 16 inches with a diameter of 1¼ inches. Fixed spray nozzle incorporating bend. Integrated fast-fill valve using a hexagonal stud with nipple and small washer. Solid steel piston rod with spring. Back-to-back leather cup washers with lock nut. Stuffing box.

Plastic Sprayer

Above :- [542] {1} No. 1 Plastic Syringe. Barrel length 16 inches with a diameter of 1¼ inches. Fixed spray nozzle. Plastic piston rod with rubber piston.

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Backpack Pneumatics (Metal)

I am not aware of any early backpack sprayers or of any advertisements referring to them. There was a range of metal pneumatics available in the 1950s, and later a range of plastic pneumatics.

Above :- [976] {3} Medium pneumatic. Steeel container painted gold. Height 9 inches with a diameter of 7 inches. Spraygen logo. Working capacity 1 gallon. Plastic hose 30 inches long. Trigger control with 18 inch lance. Shoulder carrying strap. Adjustable spray nozzle. Pressure gauge. Air pump has a plunger with leather cup washer and spring. Spring loaded valve. A larger version of this sprayer is known.

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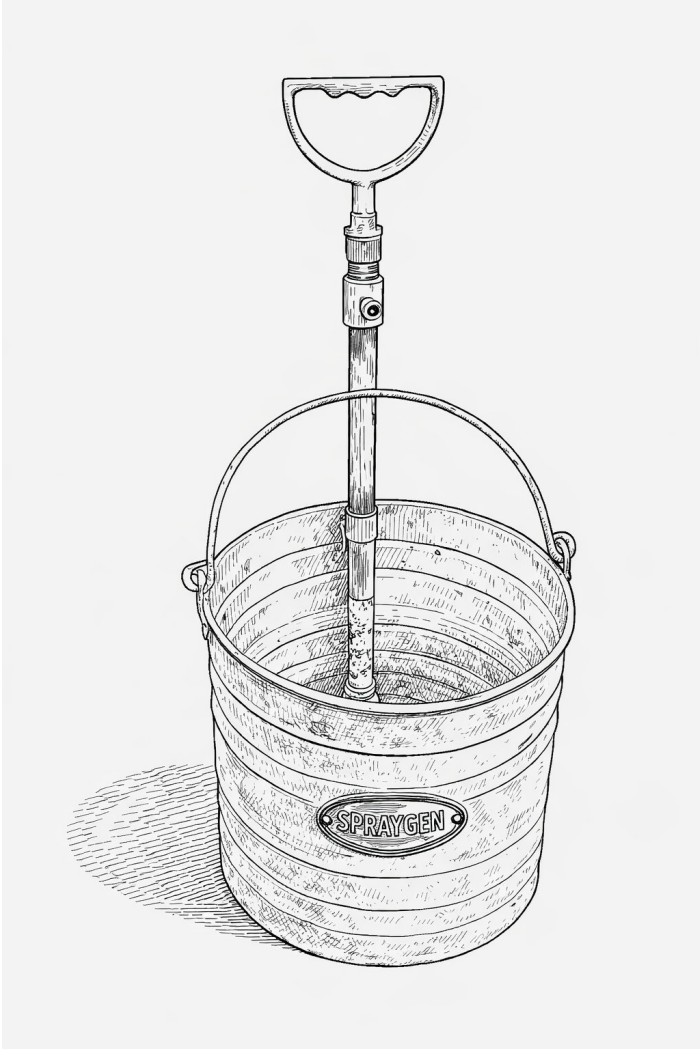
Bucket Sprayer



Above :- Spraygen Bucket Sprayer. Galvanised steel bucket with handle. Fitted pump. Red pump handle similar to the one on the pneumatic. I am not aware of any advertisements for Spraygen Bucket Sprayers. The extent of the range is unknown.

R Harris Ltd

Self Supplying Sprayer

These include the EASYSPRAY, Model 210 - the HYDRANT, the STREAMLINE, and the SPRAYSAC

The EASYSPRAY

Above :- [250] {3} The EASYSPRAY double action self supplying sprayer. It consists of two barrels. The overall length of the sprayer is 14 inches. The diameter of the outer barrel is 1 inch and that of the inner barrel ¾ inches. Hollow brass piston rod. It has a 6ft hose made of reinforced rubber. There are three valves. A ball valve in the strainer, a ball valve where the hose connects to the sprayer (the inlet valve) and a sliding valve on the piston (the piston valve). The piston valve allows liquid to pass from in front of the piston to behind it on the push stroke. Internally the hose connection passes through the outer barrel into the inner barrel. The inner barrel is blocked off just in front of the hose connection. There are two holes inside the inner barrel at the rear of the barrel, and a further connection near the front of the outer barrel which allows liquid to flow from the outer barrel into the front of the inners barrel from where it can flow through the output nozzle. After a few pulls to fill the sprayer with the liquid, with the piston fully pushed in, when the piston is pulled out the filter valve and the input valve open and the piston valve closes. This causes liquid behind the piston to be forced into the front part of the inner barrel and out through the nozzle. At the same time liquid is sucked in via the hose, filling the rear part of the inner barrel. On the push stroke the filter valve and input valve close and the piston valve opens. This allows liquid to pass the piston and flow into the rear of the inner barrel. However, the piston rod is now taking up space within the inner barrel which causes liquid to flow into the front part of the inner barrel and out through the nozzle. This gives a continuous spray.

Left :- The inlet valve and the piston valves.

R Harris Ltd

Model 208 - Single Action Self Supplying Sprayer.

Above :- [815] {2} Model 208 Self Supplying Sprayer. SPRAYGEN label with paper backing. A single action sprayer which sprays only on the push stroke. Barrel length 12 inches and diameter 1 inch. Provided with a swivel nozzle onto which a jet or rose nozzle fits. It would original have had a spray nozzle. Also, a 12 inch extension lance. Plastic hose and strainer. The front and piston valves are ball controlled. The strainer does not have a valve and there is no input valve, so the sprayer relies on just the two valves to work. The piston rod is solid brass with a single forward facing leather cup washer piston. The ball in the piston valve is held in by a screw fitting (see inset picture). Sold as the 208 FLASH OUTFIT.

Above :- Similar to [815] {2} above, but missing the lance. The piston valve is held in place a split pin, but this may not be original.

Above :- [787] {2} Single action self supplying sprayer. SPRAYGEN decal. Barrel length 16 inches and diameter ⅞ inches. Provided with a fixed spray nozzle. Rubber hose 6 ft long with strainer. The strainer does not have a valve. There is ball controlled inlet valve in the hose connector. Solid brass piston with buffer spring. The piston is a single forward facing leather cup washer.

Left :- The piston valve is of the sliding type.

R Harris Ltd

Model 210 - the HYDRANT double action sprayer with an air chamber.

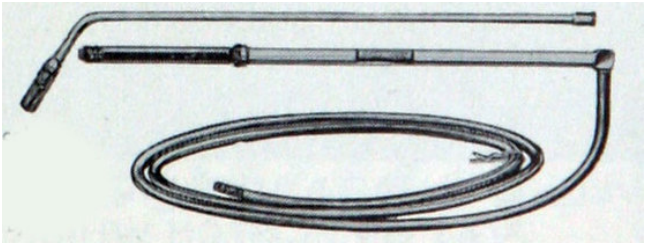
Above :- [407] {3} Hydrant double action self supplying sprayer. SPRAYGEN decal on the barrel. Outer barrel length 14 inches and diameter ⅝ inches. Inner barrel (which is actually the piston rod) length 18 inches and diameter ⅜ inches. Grip (which hides the air chamber) is 4 inches long and 1⅜ inches in diameter. Hose is green plastic and is 10ft long. The lance is 18 inches long. Fitted with an adjustable nozzle. The air chamber is an implementation of patent GB768249A dated 13 February 1957 and the nozzle *an implementation of patent GB817008A dated 22 July 1959. Advertised in Country Life 2nd May 1963. The piston is of made of rubber. There are two valves. The inlet valve is controlled by a ball and situated between the hose and the barrel. The piston valve is also controlled by a ball. There is no valve in the strainer. Full details of how this type of sprayer works is contained in Volume 3 of this series.*

Left :- The piston showing the rubber washer which forms the seal. The piston valve is controlled by a brass ball inside the end of the piston rod.

Left :- Nozzle. Turning the cap changes the gap between the cap and the top of the spray plug (the atomising chamber). This alters the spray from fine to a jet. The same approach is used on modern adjustable nozzles.

Left :- Part of a box from a Hydrant Sprayer (not the box for the sprayer pictured above). Note the illustration of the strainer which is of the longitudinal type, differing from the one in the picture above.

STREAMLINE double action sprayer.



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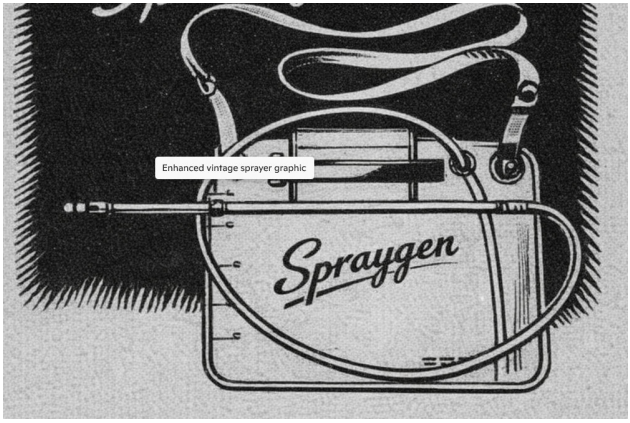
Above :- Known from a 1962 advertisement and 1963 newspaper advertisement (Country Life 7th March 1963). The VAUXHALL sprayer sold by Timothy Whites (Boots the chemist) may be a special version of this sprayer. The sprayer works on the same principal as the HYDRANT, but with a smaller capacity and without the air chamber.

Right :- The No. 212 SABRE. This is the STREAMLINE sprayer paired with a ½ gallon plastic container. Known from 1960 advertisement.

The SPRAYSAC



Above :- Known from 1957 and 1958 and 1961 newspaper advertisement. The sprayer looks similar to the STREAMLINE, but in the illustrations the hose connector is not the same. It is a double action sprayer, but with the supply coming from a 1 gallon bag like container made from strong plastic. Advertised and illustrated in the Harrow Observer in 1958 at a price 35 shillings.

The SLIMLINE

This sprayer looks similar to that shown in the SPRAYSAC advertising in that it does not have the square connector. I have not been able to associate it with any specific manufacturer, but there are several features which link the STREAMLINE,

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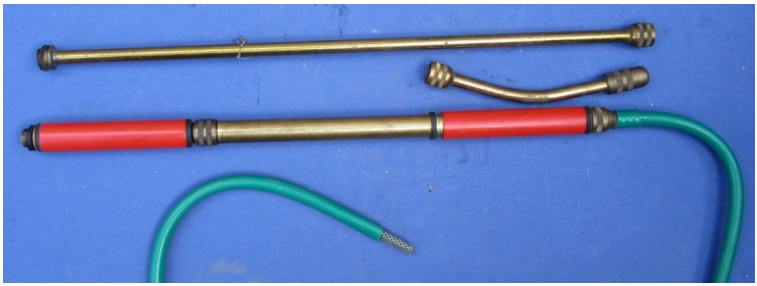
VAUXHALL and SLIMLINE. On this basis I am including the SLIMLINE with R. Harris until further evidence is obtained. The SLIMLINE was sold by Woolworth Stores and was probably branded specially for them. It is advertised and illustrated in “The Woolworth Gardeners” which was a free booklet produced around the 1960s.



Above :- [758] {3} The SLIMLINE double action sprayer. There are no manufacturers details on the sprayer or on the box. The box does indicate that it was Made in England. Richard Vale director of Solo Sprayers Ltd has confirmed that this is not a Solo Sprayer and thinks it is probably by Spraygen. The outer barrel length 9 inches and diameter ½ inch. Inner barrel 12 inches long and $^{5}/_{16}$ inches in diameter. Piston is a hard composite material. The piston valve is controlled by a ball. Inlet valve is on the connection between the hose and the barrel and is controlled by a ball. Provided with a 20 inch long lance, a bend and an adjustable nozzle. Green plastic hose with filter which does not have a valve. It does not have an air chamber. It works in the same way as the HYDRANT and STREAMLINE.

Left :- The piston and valve.

Right :- The filter.

R Harris Ltd

Small Pneumatics

Left :- [846] {2} Probably Model 30. Small brass pneumatic. Container height 6 inches with a diameter of 4½ inches. Capacity 2 pints. Spraygen decal. Pump barrel 6 inches in length with a diameter of ⅞ inches. Pump valve is spring loaded and has a filter (see below). Piston rod solid brass with a diameter of ¼ inches. Piston knob is red plastic. Piston is a single, forward facing, leather cup washer. Spray nozzle. Plastic handle. An older version with a brass piston knob is known.

Above :- [850] {2} Small brass pneumatic. Container height 6 inches with a diameter of 4½ inches. Capacity 2 pints. Remains of Spraygen decal. Pump barrel 6 inches in length with a diameter of ⅞ inches. Pump valve is spring loaded. Piston rod solid brass with a diameter of ¼ inches. Piston knob is red plastic. Piston is a single, forward facing, cup washer. Spray nozzle on a 6 inch lance. Plastic handle.

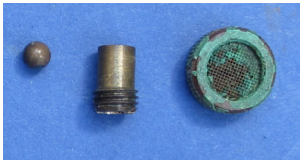
R Harris Ltd

Sprayer No. 34 Greenhouse Sprayer

A small ½ pint sprayer based on a force pump with a spring on the piston rod which returns the piston after the down stroke. The container can be copper or plastic. The mechanism is brass. There are some differences in the mechanism.

Left :- [811] {2} The brass container version of the sprayer. Container 4 inches in height and 2½ inches diameter. Capacity ½ pint. SPRAYGEN decal.

Above :- The spray mechanism. The input valve is at the bottom of the barrel. and is controlled by a small ball. A screw at the bottom of the output tube allows access to the output valve. The valve also uses a small ball.



Left :- The input valve and strainer.

Below :- The piston rod.

R Harris Ltd

Left :- [374] {2} The version of the sprayer with the plastic container. Advertised in the Sussex Agricultural Express - Friday 30 June 1961 for 19 shillings and sixpence.

Above :- The pump assembly. This version does not have user access to the output valve. The version with access to the output valve as shown with the metal container was also used with the plastic container.

Later Plastic Sprayers

Several plastic pneumatic and other plastic sprayers continue to be advertised into the late 1970s.

The No. 30 was a trigger release pneumatic sprayer with two pint polythene container, a plastic handle, and plastic pump knob. The brass spray mechanism was the same as that used on the small pneumatics [846] and [850] featured above.

R Harris Ltd

The WUNDA No. 31 is known from instructions for use dated 1961. It appears to be a pneumatic sprayer filled by removing the pump assembly. The container seems to have been made of plastic.

A 1958 advertisement in the Harrow Observer list two pneumatic. sprayers. One with a capacity of 1 pint capacity for 50 shillings and the other with a capacity of 2 pints for 56 shillings.

In 1972 there are advertisements in the Coventry Evening Telegraph for model 606 capacity 6 pints, model 700 capacity 1 gallon and model 707 capacity 1½ gallons. The same advertisement includes the “All Purpose Supermist Sprayer”.

In 1977 Hills Spraygen sprayers with capacity of 2 pints, ½ gallon and 1 gallon were being advertised. In 1978 four sprayers were being advertised, Model 400 capacity 4 pints, model 606, model 700 and model 707.

The latest advertisement found is in 1979.

Left :- Model 30. See details on next page.

Below :- Pump valve.

R Harris Ltd

Above :- [880] {4} Spraygen No. 30. Polythene container height 6 inches with a diameter of 4½ inches. Capacity 2 pints. The details are printed on the container (see left). Brass pump barrel 6 inches in length with a diameter of ⅞ inches. Pump valve is spring loaded. Piston rod solid brass with a diameter of ¼ inches. It has a spray nozzle on a short lance. Piston knob is dark red plastic. The piston appears to be leather washers (see left). Green plastic handle.

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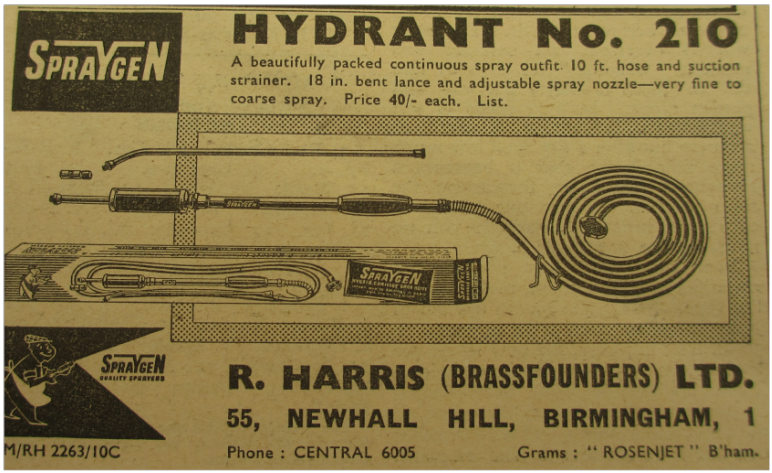
Left :- The No. 700 Supa pneumatic sprayer. Sold under the Spraygen brand by Hills Industries. The other pneumatic sprayers were probably similar, but with smaller capacity.

R Harris Ltd

Advertisement 1961



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R Harris Ltd

Advertisement 1961

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R Harris Ltd

Advertisement 1961

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R Harris Ltd

Advertisement 1961

SPRAYGEN
QUALITY SPRAYERS

No. 31 WUNDA SPRAY
Pneumatic Trigger Release Sprayer

INSTRUCTIONS FOR USE

TO FILL CONTAINER :

Stand Container upright, remove Pump complete and lay aside in clean place to avoid dirt being transferred to Container. The Container can be filled up to the black line and holds approximately two pints of liquid.

DO NOT FILL OVER THIS LINE.

Replace Pump unit complete and screw down green cap tightly by hand. This should make the Container airtight.

TO OPERATE :

To give sufficient working pressure, pump up the Container giving maximum 30 strokes of the pump. Sprayer now ready for action. If not filled to the line, more strokes of the pump will be required to produce the working pressure. Holding the unit in either hand and by depressing the lever with the thumb, liquid is released through the Spray Nozzle at the end of the lance. It is advisable the lance is kept on the Sprayer at all times. The lance can be adjusted by turning either way to give various angles. The Spray Nozzle can be removed for easy cleaning, and the small slotted block can be removed by a screwdriver for additional cleaning, but must be replaced afterwards and screwed down tightly.

After use wash the Sprayer thoroughly with clean water and occasionally oil the inside of the Plunger Barrel. (One or two spots are sufficient).

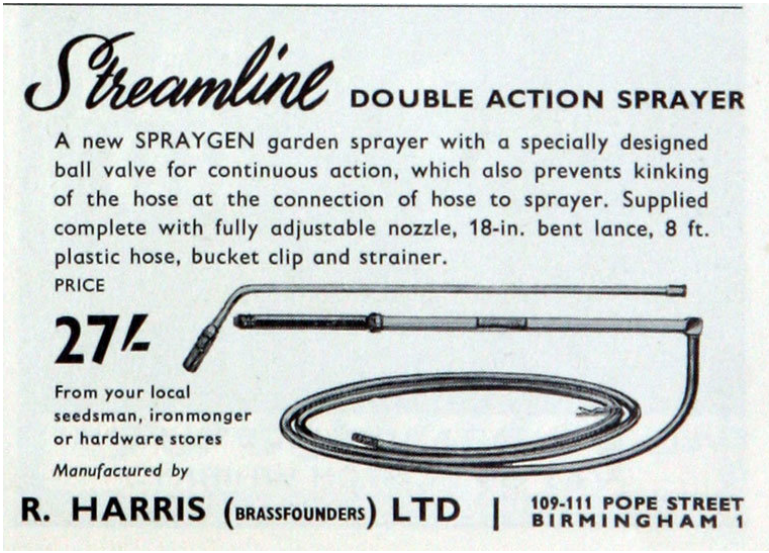
SPARES :

When ordering spares these can be obtained from a Stockist or direct from us, but in the case of a major overhaul may we suggest the Sprayer is returned to the Works.

R. HARRIS (Brassfounders) LTD.
10/12 CARVER STREET, BIRMINGHAM 1
Telephone CENtral 6005 & 1331

R Harris Ltd

Advertisement 1962



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R Harris Ltd

Advertisement 1969

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Chapter 23

Hawker & Botwood Ltd

Hawker & Botwood Ltd

Hawker & Botwood Ltd

59 Mark Lane, London EC3 (1913 to 1920). The Grove, London Road , Grays , Essex (1921). Also at Stratford, London E18. Warehouse in 1913 at Burdett Wharf, Thomas Street, Limehouse, Tower Hamlets,

SOX brand.

Arthur Edmond Hawker was a supplier of 'CORVUSINE DG' which was a seed dressing. The firm was operating from Mark Lane and a warehouse at Burdett Wharf in 1913 and possibly before. Burdett Wharf is a minor waterways place on the Lee and Stort Navigation (Limehouse Cut). Hawker and Botwood Ltd were Horticultural and Agricultural Chemist. Patents show they were operating in 1919 and in 1921 they are shown as manufacturers of fungicide, insecticide and soil steriliser. In the London Gazette in 1944 they are shown as a supplier to Late King George V. Arthur Edmond Hawker has two patents - GB160511A applied for 15 December 1919 and accepted 15 March 1921 and GB146678A applied for 16 May 1919 and accepted 15 July 1920, both involving horticultural chemicals. The company is known from two similar syringes which are of a distinctive design so probably made to their specifications for applying their pesticides. The syringe has a registered design number 777904 which dates them to after 1932.

Above :- [786] {4} Brass syringe with a barrel length 14 inches and diameter 1 inch. Plate for SOX SPRAYER (see below). Swivel head with a fast fill valve controlled by a ball. Purser type drip preventer 6 inches long. Selection of 3 spray caps. Two caps of different apertures each with its own spray plug and one jet cap. One cap is missing. There is also a rose nozzle. Piston rod is hollow brass with a cotton reel type piston. Holder on sleeve for nozzles not in use.

Left :- Spray head with fast fill valve removed. The valve is controlled by a ball.

Right :- The plate.

Hawker & Botwood Ltd

Above :- [328] {4} Brass syringe with a barrel length 20 inches and diameter 1 inch. Plate for SOX SPRAYER. Swivel head with a fast fill valve controlled by a ball. Purser type drip preventer 9 inches long. Selection of 3 spray caps. Two caps of different apertures each with its own spray plug and one jet cap. One cap is missing. There is also a rose nozzle Piston rod is hollow brass with a cotton reel type piston. Holder on sleeve for nozzles not in use.

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Chapter 24

Thomas Hickin

Thomas Hickin & Son

Thomas Hickin & Sons

Thomas Hickin & Sons Ltd

Thomas Hickin

Thomas Hickin

83 Buckingham Street, Birmingham 19 until around 1961. Then Spring Road, Shelfield, Walsall.

The business was started in 1845 by Thomas Hickin (1815-1890) *(note 1)*. By 1872 his son William (1841-1902) was involved, and the business became known as Thomas Hickin & Son *(note 2)*. William Hickin (possibly William T Hickin), for Thomas Hickin and Son, has a patent for a spray plug using spiral grooves (GB189726385A published 10 September 1898). William Hickin had two sons, William T. Hickin (1870-1916) and George J. Hickin (1872-1945). Both were involved in the business, but appear not to have taken control until the death of their father *(note 3)*. They may then have traded as T. Hickin and Sons *(note 4).* After the death of William T. Hickin (1870-1916), George J. Hickin appears to have taken full control of the business. When the company was incorporated in 1933, the listed subscribers were George J. Hickin and his son, George W. Hickin (1905-1991) *(note 5).* After his father's death, George W. Hickin managed the firm until it ceased trading in 1970 (*note 6*).

Notes
1 – An advertisement in the Hardware Trade Journal of 1892 mentions that the business was established in 1845.
2 – The earliest entry I can find for Thomas Hickin & Son is in a Post Office Directory of 1872.
3 – The 1881 UK Census shows the father, William Hickin, and the family including the two brothers. In the 1891 Census William, William T. and George J. are shown as "Brass Finishers". In the 1901 Census William is shown as an employee and the brothers as workers, which indicates that the brothers were not managing the business at that time. The 1911 Census shows the brothers William T. Hickin and George J. Hickin as brassfounders specifically making garden syringes. They are both shown as employers. George W. Hickin, the son of George J. Hickin, was aged 5 at the time.
4 - The notice of incorporation mentions T. Hickin and Sons. (see note 5). This may have been used by William T. Hickin and George J. Hickin. The earlist mention I can trace T. Hickin and Sons. is the Birmingham Daily Post 22 June 1914.
5 – The Birmingham Daily Post, 12 January 1933, reports that "Thomas Hickin & Sons Ltd. Capital £1000. Objects: To acquire the business of brass-founders carried on at 83 Buckingham Street, Birmingham, as T. Hickin and Sons, and to carry on the business of manufacturers of garden syringes, fittings, spraying machines, etc. The subscribers are G. J. Hickin, G. W. Hickin. Office: 83 Buckingham Street, Birmingham."
6 – The company was officially struck off on 20 February 1970 (London Gazette), but the last advertisements were in 1967.

Thomas Hickin

Thomas Hickin advertised a wide range of sprayers and other products. The horticultural items included garden syringes, self−supplying sprayers, bucket pumps, and stirrup pumps. However, very few surviving sprayers can be confidently attributed to the company. This may be because their products were not marked with the company name, or because production was limited

Brands - KNOWLES and T.H. & S.

Syringes

Above :- [428] {4} Brass syringe. Plate with KNOWLES PATENT SPRAYER. Barrel length 14 inches and diameter 1 inch. Spray nozzle embossed PATENT on one side and KNOWLES on the other. The patent probably refers to the spray plug. There is one spare spray nozzles cap and a holder for an additional one. This cap is now missing. There is a rose nozzle and a holder for the nozzle not in use. The piston is hollow brass. The original construction of the piston is unclear. Possibly it originally had a forward facing cup washer with a cotton bound piston behind this. However, the shape is not totally consistent with this. The spray nozzle has a fast-fill valve controlled by a ball (left). The ball and the spray plug are held in by a large screw in component.

Thomas Hickin

Continuous Action Sprayer

Left :- The hose connectors and filter. The filter contains a ball valve.

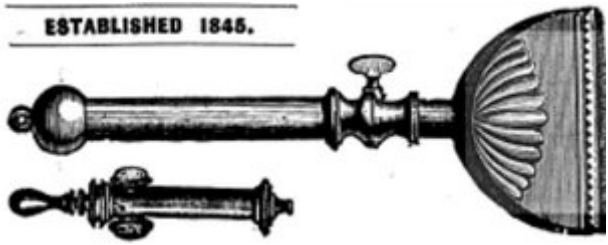
Left :The logo on a brass plate attached to the barrel.

Left :- The end of the piston rod containing the piston rod valve.

Above :- [981 {5} Thomas Hickin and Sons Continuous sprayer without an air chamber. Plate reads IMPROVED CONTINUOUS SPRAYER THE T H & S . Barrel length 18 inches and diameter 1 inch. Wooden grips. Full length when closed 24 inches. Ball valves at hose connection and on the end of the piston rod. Also a ball valve in the strainer. Uses leather cup washers. Lance 24 inches long with a separate bend. Two spray nozzles and one jet nozzle. The complete kit as shown above looks complete apart from the hose which was probably made of rubber. It came in a custom made wooden box with a sliding lid..

Thomas Hickin

Below :- Advertisement 1892 (Top item is a horse singeing lamp - using paraffin)



THOMAS HICKIN & SON, Brassfounders,

Patentees and Manufacturers of Garden Syringes, Reeds Ball Valve Syringes, Floral and Ladies' Syringes, &c., Garden Engines, Double Action Engines, Can Engines, all kinds, Cattle Syringes, Oil or Tallow Syringes, Brass Spirit Forces, Football Inflators, Hydropults or Suction Syringes, Fumigators, Brass Gig Umbrella Furniture, Fountain Jets, Hot Water and Oil Screws, Horse Sweat Scrapers, Bicycle and Tricycle Patent Tyre Heaters.

All kinds of Horse Gas Singeing and Naphtha Spirit Lamps, etc.

83, BUCKINGHAM ST., BIRMINGHAM.

Below :- Advertisement 1945

Below :- Advertisement 1961

Thomas Hickin

Thomas Hickin & Sons Ltd

Below :- Estimated 1938 to 1942

With the "T. H. & S." Improved Continuous Sprayer one man can do his own Whitewashing, Disinfecting, Creosoting, Spraying and use his own Bucket.

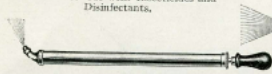
No. **060**. **35**/– each
Fitted with two Spray Nozzles, for Coarse and Fine Spraying, two polished Wood Grip Handles, 10 ft. Best Rubber Tubing with Union Joint, 2 ft. Long Brass Extension Tube Rod, Angle Bend and Suction Strainer. Ideal for Spraying Rose Gardens, Fruit Trees, Lime-washing Fowl Pens, Piggeries, Outhouses and Farm Buildings.

BRASS GARDEN SYRINGES
With Double-Cup Leather Plungers.

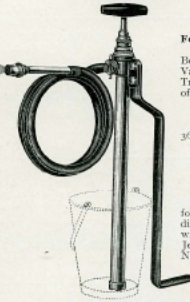
		1¼ in. × 16 in.	1¼ in. × 18 in.
No. **015**.	One Rose and Jet	**5/8**	**6/3** each
No. **017**.	.. .. ..	**6/9**	**7/6** ..
No. **017A**.	Two Roses and Jet	**8/3**	**8/9** ..
No. **404**.	.. ..	**10/–**	**12/6** ..

LIME WASHING AND SPRAYING MACHINES
A Powerful Continuous Action Pump, with Ball Valves, complete with 6-ft. of Best Hose, Union Joint, 2-ft. Long Brass Extension, Tube Lance, with Stop Cock, one Lime Washing and one Spraying Nozzle and one Jet, including strong Galvanised Iron Bucket, capacity 4 Gallons, with Strong Sieve.
No. **058A** **68**/– each

SPRAYING SYRINGES
Suitable for Use with Insecticides and Disinfectants.



No. **100**. ⅜ in. × 16 in. Spray and Bend **6/4** each
No. **101**. Reliable and inexpensive Sprayer, fitted with Ball Valve, Rose and Bend (for spraying under leaves of plants). Polished Black Handle, Cup Leather Plunger.
⅜ in. × 18 in. ... ... **7/6** each
1 in. × 18 in. ... ... **10/–** ..
1¼ in. × 16 in. ... ... **15/–** ..
With Bend, Rose, and Three Spray Nozzles.
No. **124**. Best quality 1 in. × 20 in. ... **20/–** each
1¼ in. × 20 in. ... ... **26/–** ..



BRASS PUMP
For Oil Drum or Oil Barrel
Best Quality, with Ball Valves, fitted with Drip Tray to fix into bunghole of drum or barrel.
10 Gallon Drum
1-in. × 36-in.
22/– each.
36 Gallon Drum or Barrel
1-in. × 42-in.
24/– each.

A.R.P. STIRRUP HAND PUMP
for dealing with "Incendiary Bombs." Complete with 30-ft. hose, and Dual Jet and Spray Nozzle.
No. **040** .. **35/6** each

PLUMBER'S BRASS FORCE PUMP
Extra Strong, fitted with Metal Valves, Double Cup Leather Plunger, Polished and Lacquered Barrel.
1¼ in. × 16 in. Overall 23 in.
No. **057** ... ... **41**/– each

STRONG CAST BRASS TAPER DELIVERY NOZZLE
4/6 each extra.
Any length of best rubber delivery hose fitted at cost price extra.

ALL-BRASS CONTINUOUS ACTING SPRAY PUMP
Fitted with brass ball valves, wrought iron foot rest, 6 ft. best hose, with union joint, 12-in. brass delivery branch pipe with jet and spray nozzle.
A good, cheap, reliable pump. Can be used for whitewashing, disinfecting, creosoting, spraying from your own household bucket.
No. **056** ... ... **30**/– each

Trade T.H.&S. Mark

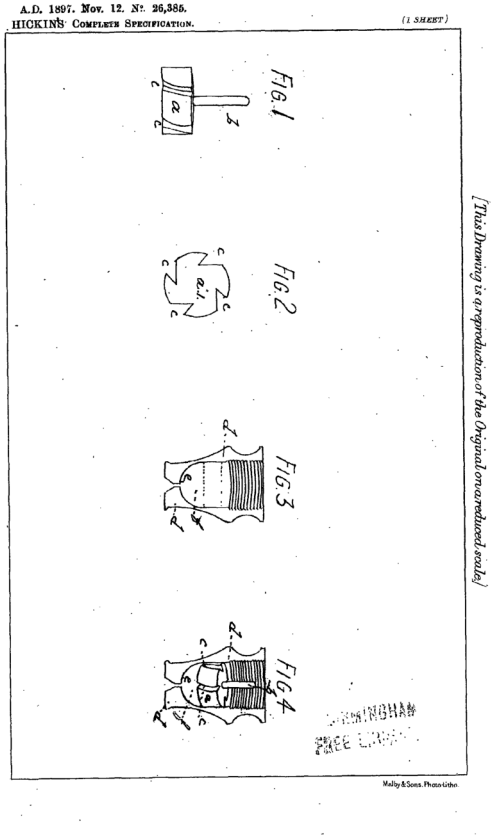
THOMAS HICKIN & SONS LTD. HORTICULTURAL BRASSFOUNDERS
Also makers of Spraying Machines, Bilge Pumps, Salting Pumps, Fountain Jets
83 BUCKINGHAM STREET - - - BIRMINGHAM, 19
TELEPHONE: CENTRAL 2537

For Discounts, Terms, etc., see Quarterly List.

Thomas Hickin

William Hickin - Patent

Below :- Drawing from patent GB189726385A. Filed 12 November 1897 and publsihed 10 September 1898. The patent is for a spray plug using spiral grooves. When in place in its housing the grooves form channels. This method becomes widely used in spray nozzles but usually with just two grooves. Having grooves instead of holes allows for easier cleaning.



Thomas Hickin

Thomas Hickin & Sons Ltd - *1956*

Trade Mark T.H.&S.

THOMAS HICKIN & SONS LTD. HORTICULTURAL BRASSFOUNDERS

Also makers of Cattle Syringes, Bilge Pumps, Salting Pumps, Fountain Jets, Singeing Lamps

83 BUCKINGHAM STREET - - - BIRMINGHAM, 19

TELEPHONE : CENTRAL 2537

SPRAYING SYRINGES.

Suitable for Use with Insecticides and Disinfectants.

No. 100. Reliable and inexpensive Sprayer, fitted with Ball Valve and Bend (for spraying under leaves of plants). Polished Black Handle, Cup Leather Plunger. ¾ in. × 16 in.

With Rose and Bend.

No. 101. ¾ in. × 18 in.; 1 in. × 18 in.

With Bend, Rose, and Three Spray Nozzles.

No. 124. Best quality 1 in. × 20 in. 1¼ in. × 20 in.

With the "T.H. & S." Improved Continuous Sprayer one man can do his own Whitewashing, Disinfecting, Creosoting, Spraying, and use his own Bucket.

No. 040.

Fitted with two Spray Nozzles, for Coarse and Fine Spraying, two polished Wood Grip Handles, 10 ft Best Rubber Tubing with Union Joint, 2 ft. Long Brass Extension Tube Rod, Angle Bend and Suction Strainer.

Ideal for Spraying Rose Gardens, Fruit Trees, Limewashing Fowl Pens, Piggeries, Outhouses and Farm Buildings.

BRASS GARDEN SYRINGES.

With Double Cup Leather Plungers.

1½ in. × 16 in. 1½ in. × 18 in.

No. 016. Stamped Rose only.

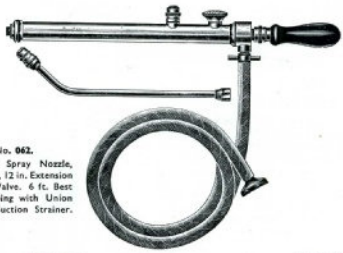
No. 015. One Stamped Rose and Jet.

No. 017. One Cast Rose and Jet.

No. 017A. Two Cast Roses & Jet.

No. 404. Two Cast Roses & Jet with Stuffing Box.

No. 153. Two Cast Roses & Jet with Stuffing Box.



No. 062.

Fitted with Spray Nozzle, Rose and Jet, 12 in. Extension Lance, Ball Valve. 6 ft. Best Rubber Tubing with Union Joint and Suction Strainer.

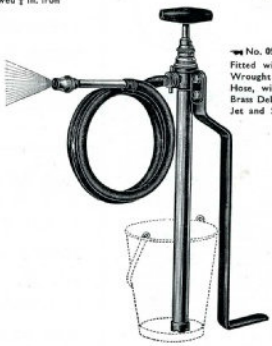
No. 13.

The Universal Spray Director, with tapered Union to fit ½ in., ¾ in., or 1 in. hose, screwed ¼ in. iron pipe thread.

½ in. ¾ in. 1 in.

No. 0. With Rose and Fixed Jet.

No. 1. With Tap, Rose and Fixed Jet



No. 056

Fitted with Brass Ball Valves, Wrought Iron Foot Rest, 6 ft. Best Hose, with Union Joint, 12-in. Brass Delivery Branch Pipe with Jet and Spray Nozzle.

BRASS PUMP, FOR OIL DRUM OR OIL BARREL.

Best Quality, with Ball Valves, fitted with Drip Tray, to fix into bunghole of drum, or barrel.

10 gallon Drum 1 in. × 36 in.

36 gallon Drum or Barrel 1 in. × 42 in.

No. 057

PLUMBERS' BRASS FORCE PUMP.

Extra Strong, fitted with Metal Valves, Double Cup Leather Plunger, Polished and Lacquered Barrel. 1⅛ in. × 16 in. Overall 23 in.

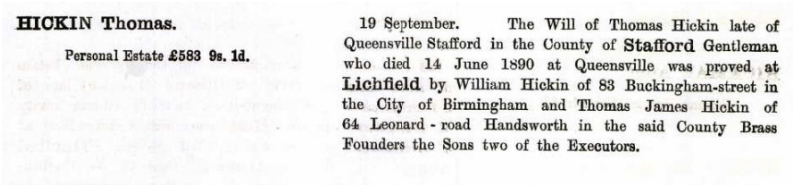
STRONG CAST BRASS TAPER DELIVERY NOZZLE.

Any length of best rubber delivery hose fitted at cost price extra.

FOR PRICES, DISCOUNTS, ETC., SEE SEPARATE LIST

Thomas Hickin

Probate - Thomas Hickin - 1890 - A relatively wealthy man by the standards of the time.

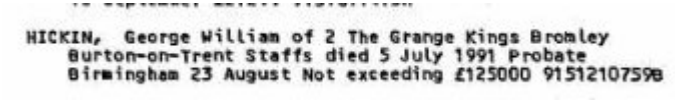


HICKIN Thomas.

Personal Estate £583 9s. 1d.

19 September. The Will of Thomas Hickin late of Queensville Stafford in the County of **Stafford** Gentleman who died 14 June 1890 at Queensville was proved at **Lichfield** by William Hickin of 83 Buckingham-street in the City of Birmingham and Thomas James Hickin of 64 Leonard-road Handsworth in the said County Brass Founders the Sons two of the Executors.

Probate - George William Hickin - 1991



HICKIN, George William of 2 The Grange Kings Bromley
Burton-on-Trent Staffs died 5 July 1991 Probate
Birmingham 23 August Not exceeding £125000 91512107598

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Chapter 25

Ernest H Hill Ltd

Ernest H Hill Ltd

Ernest H. Hill Ltd.

Broomhall Street, Sheffield (1907). Later Beta Works, 66 Fitzwilliam Street, Sheffield.

Founded in 1841. The limited company was formed in 1907. Ernest Henry Hill (1836-1919) and Harold Hill (1873-1947) were the directors. Sprayers were listed as one of their products. NESTHILL sprayers were being advertised in 1924. The company is still trading as the manufacturer of industrial pumps of all types, but not horticultural sprayers.

Brands are NESTHILL and TOM THUMB. Models include ARUNDEL, EASISPRAY, GLENBOURNE, HANDISPRAY, HOLMWOOD, HYPRESS, KING, NESTOR, OAKLAND, REGINA, SPRAYMAKER.

For horticultural use they made garden syringes, hand pumps, bucket pumps, barrow pumps, stirrup pumps, pneumatic sprayers, powder blowers, hose nozzles, and weed eradicators.

Ernest H. Hill Ltd also produced a wide range of motor vehicle related items including foot pumps, oilers, greasers and various tools. The motoring items have specialist collectors and I am not attempting to cover these products.

Syringes

The syringe models that I am aware of are covered, but there will be others. At least 50 syringe models are shown in the 1930s photograph. A noticeable feature of many of the surviving Ernest Hill Sprayers is the very robust nozzle with an integrated fast-fill valve. These fast-fill valves are controlled by a cone shaped component which is much larger than those used by any other manufacturers.

Left :- Typical NESTHILL spray nozzle. About 1 inch in diameter. It is controlled by a cone shaped component (centre). In this example it is held in with a component (left) which screws in. Other methods are also used.

Ernest H Hill Ltd

The Popular Spray Syringe - Models 800, 955 and 956

Model 800 - barrel length 18 inches and diameter ⅞ inch without rose nozzle.
Model 955 - barrel length 16 inches and diameter 1 inch with spray and rose nozzle.
Model 956 - barrel length 20 inches and diameter 1 inch with spray and rose nozzle.

Above :- [481] {2} Brass syringe sprayer model 956. ERNEST H HILL plate. Barrel length 20 inches and diameter 1 inch. Removable bend. Spray nozzle with integrated fast-fill valve based on a cone. Rose nozzle and holder on barrel. Hollow brass piston rod ⅜ in diameter. Back-to-back leather cup washer piston.

Above :- [124] {3} Brass syringe sprayer. Plate for BRITON FERRY CHEMICAL AND MANURE CO LTD. They were a major manufacturer of fertiliser. Barrel length 20 inches and diameter 1 inch. Removable bend. Spray nozzle with integrated fast-fill valve based on a cone (as illustrated above). Rose nozzle and holder on barrel. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston.

Above :- [289] {2} Brass syringe sprayer model 955. Plate for ERNEST H HILL. Barrel length 16 inches and diameter 1 inch. Removable bend. Spray nozzle with integrated fast-fill valve based on a cone but held in with a spring clip. Missing a holder which was probably for a rose nozzle. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston.

Nesthill Garden Syringes with Spray Head

These models were fitted with a Purser type drip preventing sleeve 8 inches in length or with very short (1 or 2 inch) drip protectors. They had the same spray nozzle as the Popular Spray Syringe. On some models a jet and/or rose nozzle were provided with a

holder on the barrel. Models I am aware of are listed below but there may be others. At one time those with the long drip preventer were advertised with a cotton packed piston supplemented by a forward facing cup washer. However, some are known with back-to-back cup washers. These are probably later. All those known with the short drip preventer have back-to-back cup washers which suggest they are latter. This is supported by the fact that the models most frequently found and therefore the most recent have the short drip preventer and back-to-back cup washers.

Model 811 - barrel length 20 inches and diameter 1 inch with spray and coarse rose. Long drip preventer.
Model 900 - barrel length 20 inches and diameter 1⅛ inches with spray and coarse rose. Short drip preventer.
Model 910 - barrel length 20 inches and diameter 1 inch with spray, jet and coarse rose nozzle. Long drip preventer.
Model 911 - barrel length 20 inches and diameter 1 inch with spray and coarse rose nozzles. Long drip preventer.
Model 912 - barrel length 20 inches and diameter 1 inches with spray nozzle only. Long drip preventer.
Model 920 - barrel length 20 inches and diameter 1⅛ inch with spray, jet and coarse rose nozzles. Long drip preventer.
Model 922 - barrel length 20 inches and diameter 1⅛ inch with spray nozzle only. Long drip preventer.

Above :- [457] {3} Brass syringe sprayer possibly model 922. NESTHILL plate. Barrel length 20 inches and diameter 1⅛ inches. Spray nozzle with integrated fast-fill valve based on a cone held in with a screw fitting. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. Eight inch drip protector.
Above :- [099 and 108] {2} Brass syringe sprayer. ERNEST H HILL plate. Barrel

length 16 inches and diameter 1 inch. Removable bend. Spray nozzle with integrated fast-fill valve based on a cone held in with a screw fitting. Rose nozzle and holder on barrel. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. Two inch drip protector. Collection [546] is similar but missing the spray nozzle.

Ernest H Hill Ltd

Above :- [177] {2} Brass syringe sprayer. No manufacturer's details. Barrel length 16 inches and diameter 1 inch. Removable bend. Spray nozzle with integrated fast-fill valve based on a cone held in with a spring clip. Rose nozzle and holder on barrel. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. Two inch drip protector.

The Crown Spray Syringe

Available with a barrel length of 18 inches and diameter of ⅞ inch and a barrel length of 20 inches with a diameter with ⅞ inch.

Above :- [030] {3} Brass syringe sprayer model 900. NESTHILL plate. It has 'Registered 098417' engraved on barrel. Barrel length 16 inches and diameter ⅞ inches. Spray nozzle with separate fast-fill valve based on a ball held in with fixed pin. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. One inch drip protector.

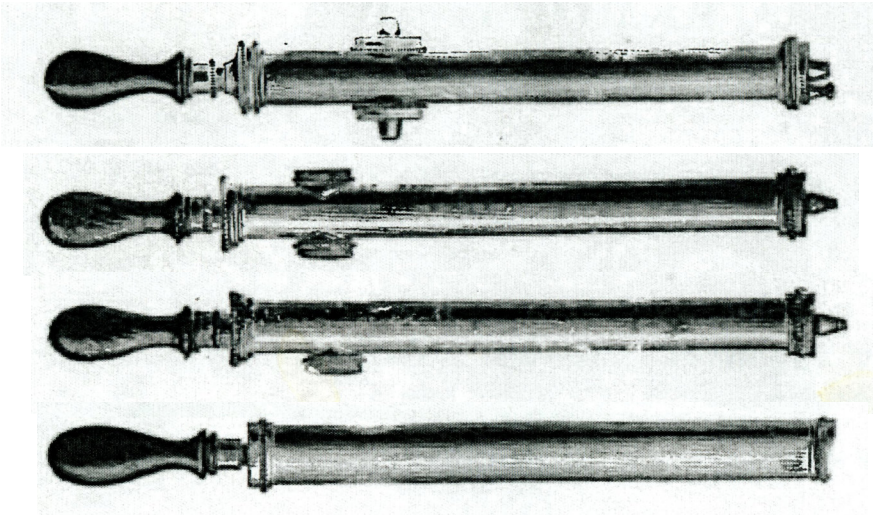
Above :- [414] {3} Brass syringe sprayer model 900. NESTHILL and number engraved on barrel. Barrel length 16 inches and diameter ⅞ inch. Spray nozzle with separate fast-fill valve based on a ball held in with fixed pin. Hollow brass piston rod ⅜ in diameter. Back-to-back leather cup washer piston. One inch drip protector.

Nesthill Garden Syringes with Rose or Jet Nozzles

These are larger diameter syringes without drip preventing sleeves with a barrel diameter of 1¼ inches or 1½ inches. They could be fitted with various combinations of a coarse rose, a medium rose, a fine rose and a jet. I have not seen an example of one of these sprayers and suspect they did not have a NESTHILL plate or

engraving. I have a number of unmarked syringes in my collection which could be one of this type, but the catalogue drawings and details are not accurate enough to identify them as NESTHILL. The models I am aware of are listed below, but this will not be a complete list.

Model 215. Barrel length 18 inches and diameter 1¼ inches. Rose only.
Model 216. Barrel length 18 inches and diameter 1¼ inches. Fitted with medium rose and jet.
Model 217. Barrel length 18 inches and diameter 1¼ inches. Fitted with coarse rose, fine rose and jet.
Model 242. Barrel length 18 inches and diameter 1½ inches. Fitted with coarse rose, fine rose and jet.
Model 315. Barrel length 18 inches and diameter 1½ inches. Rose only.
Model 316. Barrel length 18 inches and diameter 1½ inches. Medium rose and jet.
Model 317. Barrel length 18 inches and diameter 1½ inches. Coarse rose, fine rose and jet.



Above :- Drawings of some of the models of this type. Note the difference in the design of the barrel end cap.

Nesthill Other Syringes

Above :- Drawing of galvanised syringe model 1509. Barrel length 18 inches and diameter 1½ inches. Also available was syringe model 1510. This was also 18 inches long with a diameter of 1½ inches. It is described as zinc with a brass piston rod.

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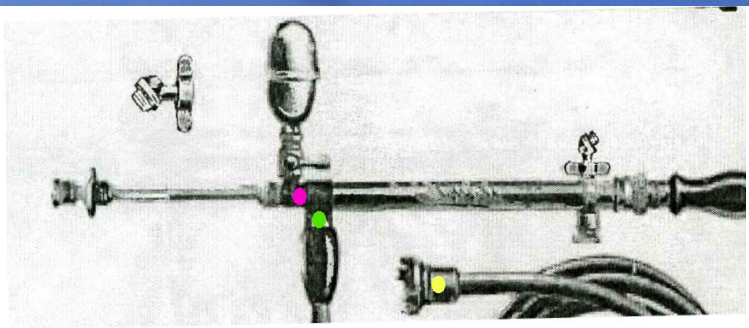
Above :- [177] {4} Brass sprayer. Remains of red NESTHILL decal. Barrel length 9 inches and diameter 1.5 inch. Rose nozzle. Back-to-back leather cup washer piston. Probably designed for spraying oil. It looks like it had contained oil and there was a strong smell of oil in the barrel.

NESTHILL HANDISPRAY



Above :- [392] {4} Double action self supplying sprayer with air chamber. This does not have any manufacturers details on it, but I believe it the be the HANDISPRAY.

Barrel length 13 inches and diameter ⅞ inches. Hollow brass piston rod. Forward facing leather cup washer. Fitted with a spray nozzle (left). It has an air chamber which can be turned on/off. Hose is missing. This is implementation of a force pump. The inlet valve (green) is controlled by a ½ inch ball and is situated in the lower grip. There is also a ball valve in the strainer (yellow). There appears to be a version of this sprayer in the 1930 photograph.

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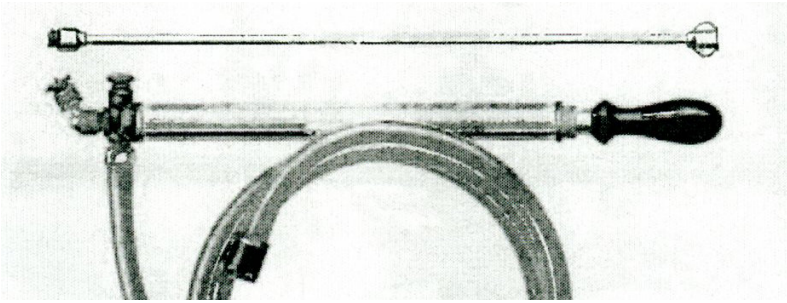
The outlet valve (pink) is situated just before the branch to the air chamber. On the pull stroke the inlet and strainer valves open and the outlet valve closes. Liquid is sucked into the barrel. On the push stoke the inlet and strainer valves close and the outlet valve opens spraying the liquid. On the push stroke some liquid enters the air chamber and this compresses the air. This compressed air continues the spraying during the pull stroke. The chamber can be isolated making the sprayer single action when it sprays only on the push stroke.

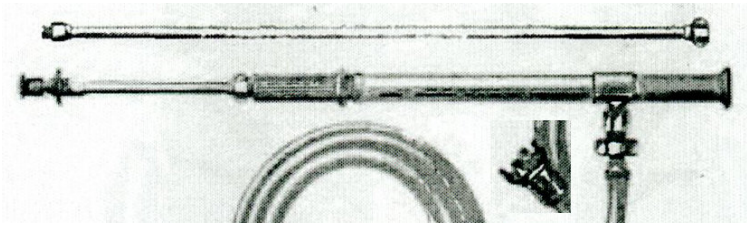
NESTHILL HYPRESS - model 5100

This appears to be a double action sprayer working on the same principle as the Allen & Freeman Double Action sprayer. This has a separate inner barrel into which the piston fits. For details of how this works see Volume 3. Advertised for greenhouse, gardens and for spraying limewash. It was provided with a lance with a self cleaning limewash nozzle and 6 ft of rubber hose.



NESTHILL EASISPRAY - model 6100

This appears to be a double action sprayer with an inner barrel and an arrangement of chambers and valves which allow it to spray both on the pull stroke and push stroke. This would involve a piston valve and an inlet valve. Investigation of an actual example is needed to confirm this. It was supplied an extension lance various nozzle and 12 ft of hose.



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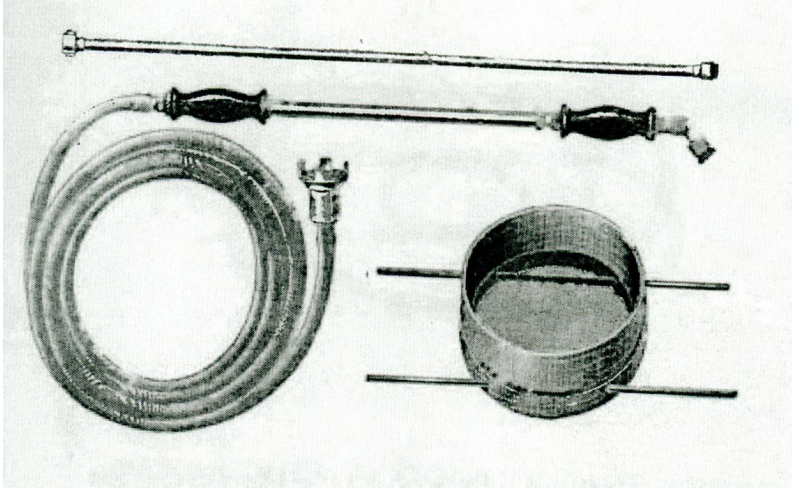
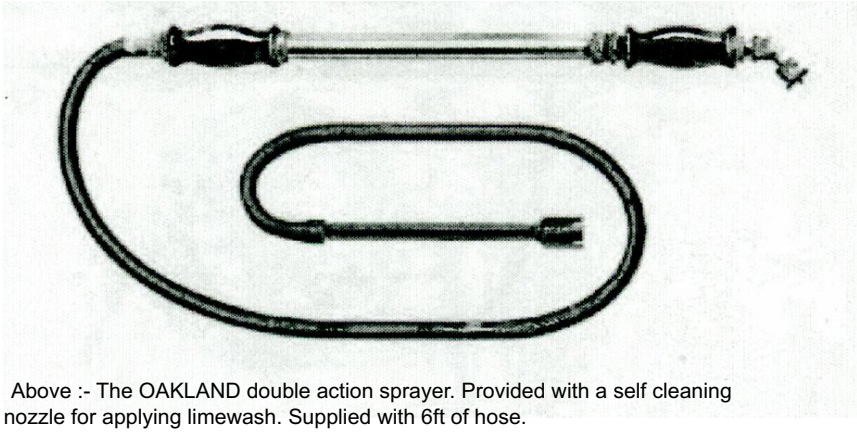
NESTOR - model 3100 and OAKLAND - model 4200

These two sprayers are of the SOLO type with two tubes, one of which fits inside the other. The larger tube is the barrel and the smaller one a hollow piston rod. Liquid comes into the sprayer via the end of the barrel where there is a valve. The nozzle is attached to the end of the piston rod. The sprayers are double action. Neither of these sprayers appear to have air chambers.



Above :- The NESTOR double action sprayer. Provided with a self cleaning nozzle for applying limewash. Supplied with 12 ft of hose.



Above :- The OAKLAND double action sprayer. Provided with a self cleaning nozzle for applying limewash. Supplied with 6ft of hose.

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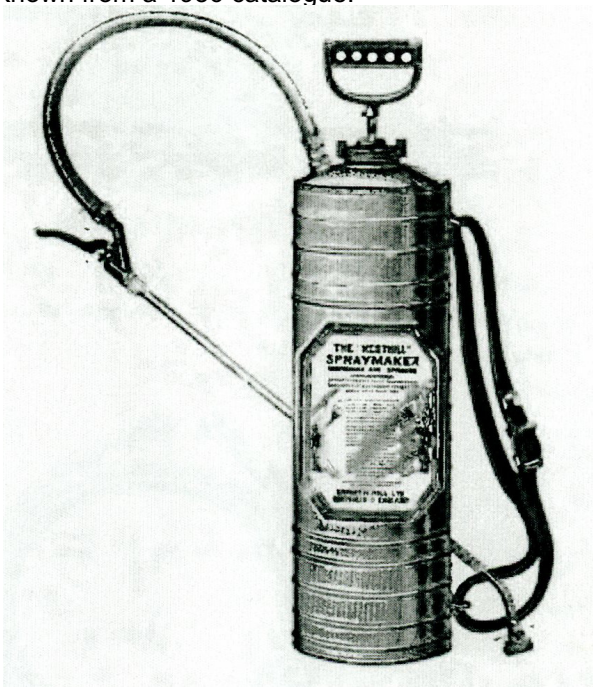
SPRAYMAKER Pneumatic Sprayer

This sprayer has a solid copper tank. It is filled through the top by removing the pump. It came with a trigger controlled spray lance. The illustration shows a version with a shoulder strap. Other versions were produced which were designed as backpack sprayers. Known from a 1936 catalogue.



Small Pneumatic

Left :- [495] {3} ARUNDEL small pneumatic model 4100. Container height 10 inches. Diameter 4 inches. Spray nozzle. Cup washer piston. The tank is made of copper and fitted with a safety valve. Gives a very fine spray suitable spraying insecticides and disinfectants. The handle is tubular to allow a pole to be fitted so that the sprayer can be elevated for spraying in cinemas and hospitals. Holds enough liquid for 15 minutes of spraying.

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Pump Sprayers (Container, bucket, stirrup)

These sprayers all use a pump based on the common pump with a hollow piston rod forming an air chamber which evens out the flow at the point where the direction of reciprocation changes. Ernest Henry Hill has a patent number GB301164A applied for on the 5 July 1928 and accepted on 29 November 1928 for an extension to the piston rod to provide an additional air chamber. In this patent an additional cylinder is added to the piston rod above where it enters the barrel. This extension is sealed apart from a hole linking it to the piston rod. Ernest Hill pump sprayers make extensive use of this. They can be recognised as they have the part of the piston rod above the stuffing box larger in diameter than the piston rod.

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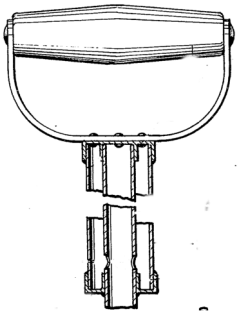
Above :- [818] {3} Model 2022. The UNIVERSAL. There is a NESTHILL plate on barrel and NESTHILL UNIVERSAL on the stirrup. Brass barrel. Length 18 inches and diameter 1 inch. Piston rod is hollow brass with an air chamber 5 inches long and 1 inch in diameter. Piston is of the cotton reel type. The foot valve and the piston valve are both controlled by a ball. Iron stirrup. Total height of sprayer is 28 inches. Originally it would have had a 2ft lance and would have been supplied with a jet nozzle, and self cleaning fine and coarse spray nozzles. The lance is missing and while there are nozzle caps, the nozzles are otherwise incomplete. Advertised for horticultural spraying, for limewashing, disinfecting and cleaning.

Left : The stirrup.

Right :- The piston rod. The additional air chamber is below the handle.

Right :- The piston valve.

Below :- Drawing of the air chamber in the piston rod.



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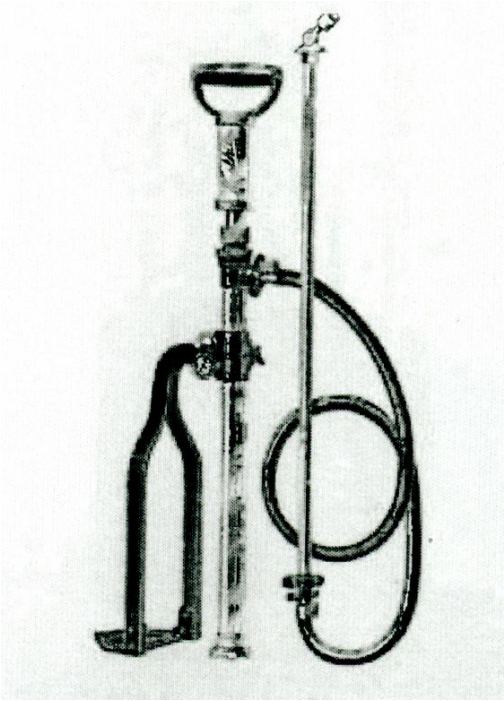
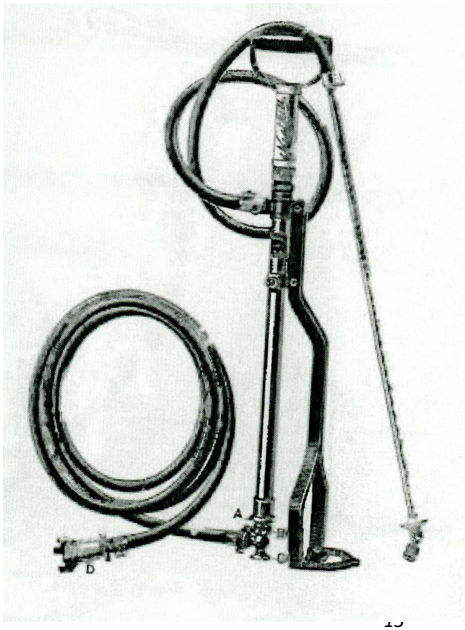


Left :- Model 2020 drawing. The JEWEL. Similar to the UNIVERSAL, but with a larger diameter barrel. Brass barrel. Length 18 inches and diameter 1¼ inches. Piston rod is hollow brass with an air chamber 5 inches long and 1½ inches in diameter. Total height of sprayer is 28 inches. Fitted with a 2ft lance. Supplied with a jet nozzle, and self cleaning spray nozzle and a rose nozzle. Advertised for limewashing, window and car washing, and disinfecting.



Left :- Model 2024 drawing. The SUCCA. Similar to the UNIVERSAL, with the same size barrel. Brass barrel. Length 18 inches and diameter 1 inch. Piston rod is hollow brass with an air chamber 5 inches long and 1¼ inches in diameter. It is designed to stand firmly. The input is through a hose which can take liquid from a tank or stream etc. It can draw water vertically 25ft and horizontally 120ft.

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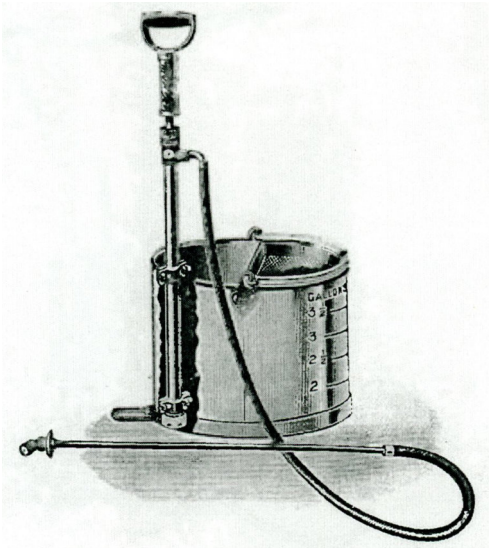
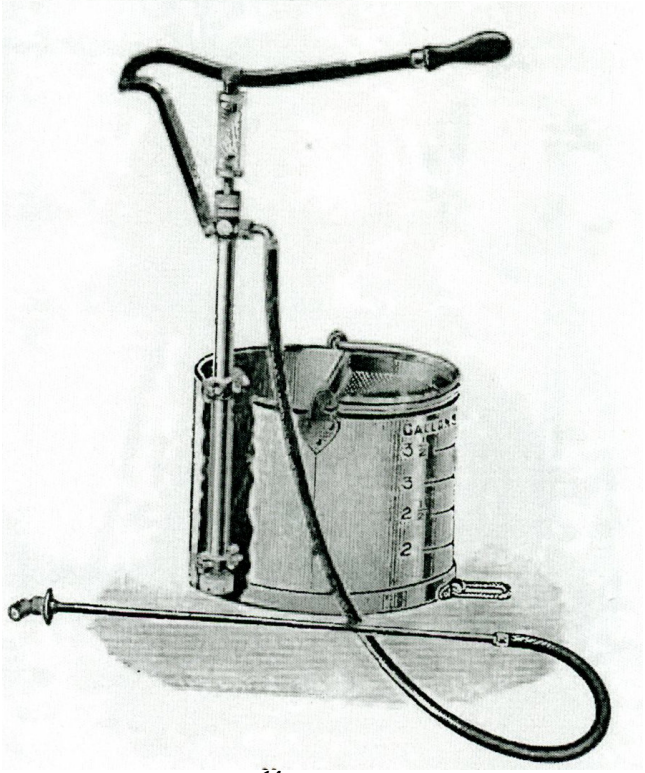


Left :- Model 2030. The RUBY. This uses the same pump as the UNIVERSAL, but instead of the stirrup it is attached to an oval container with a capacity of 3½ gallons.

Model 2032 (also the RUBY) is similar, but uses the larger pump as used in the JEWEL.

Below :- Model 2040 is the LEVER RUBY which is the same as model 2030, but with a lever action which can give greater pressure. Model 2042 is a version of the LEVER RUBY, but with the larger pump. Known from a 1936 catalogue, price 50/-



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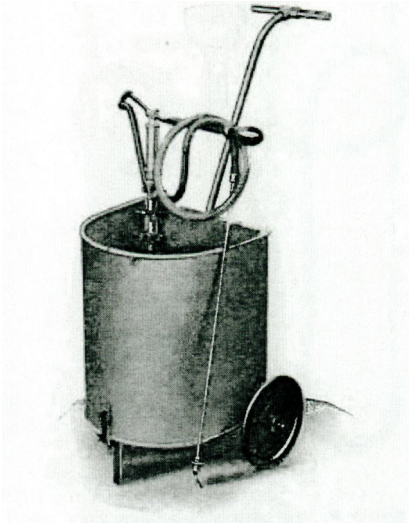
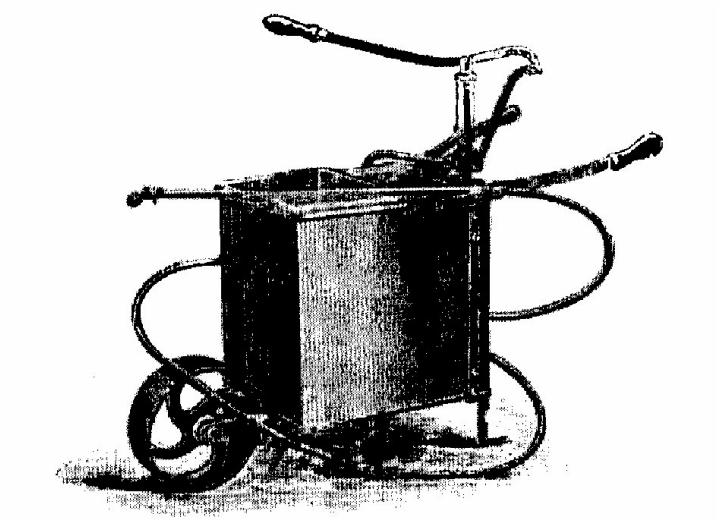


Left :- Model 4032. The RUNABOUT. This uses a similar pump to the UNIVERSAL but with a lever and attached to a barrow. It sprays disinfectant, insecticides, creosote, and whitewash. The pump can be easily detached from the barrow. Without the pump the barrow can still be used as a water carrier or as a barrow. Known from a 1936 catalogue at a price of 55/-



Above :- Model 2052 and 2053. The BARROW sprayer. This uses the same pump as the UNIVERSAL, but fitted to a barrow and lever operated. The tank is 16 inches high, 18 inches wide and 12 inches deep with a capacity of 10 gallons. Fitted with a wide wheel. It has a strainer. The tank of model 2053 is made in leaded iron and painted. This sprayer is identifiable in the 1930 photograph and known from a 1936 catalogue. .

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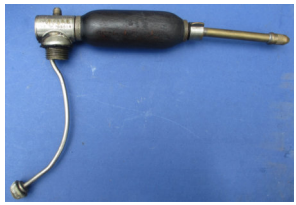
Hand Sprayer - The Glenbourne

Above :- [817] {3} This is a hand operated air pump sprayer with air atomisation. It is operated by an air pump with a barrel length 6 inches with a diameter of 1¼ inches. The valve on this is controlled by a ball with a spring. Leather cup washer piston on a $^{7}/_{16}$ stainless steel piston rod with spring. It appears to be made mainly of stainless steel, but versions in brass are known. The container is 4 inches tall and 4 inches in diameter. Capacity 2 pints.

Left :- The pump valve.

Right :- Logo.



Right :- This shows the tube which leads from the bottom of the container to the spray nozzle. It has a strainer on the end. Operating the pump causes air to be forced into the container which forces liquid through the tube. Air is also forced directly through to the nozzle where is merges with the liquid from the container to give an atomised spray.

Left :- This shows the tube from the container as it leads into the nozzle. Air coming directly from the pump passes around this.

Right :- [822] Not marked but appears to be an earlier version of the Glenbourne. Minor. Differences (eg filler cap and nozzle).

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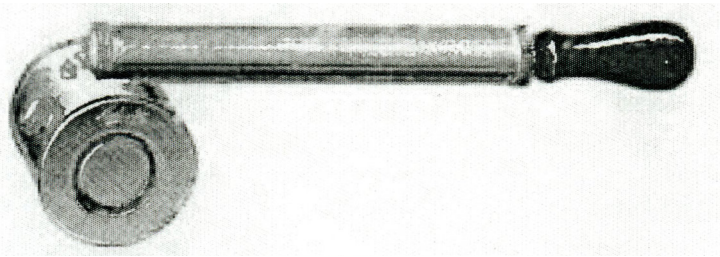
Hand Disinfectant Sprayer - The KING

Above :- [816] {3} Model KING. This is a hand operated air pump sprayer with air atomisation. The sprayer has NESTHILL KING SPRAYER engraved into barrel. It is operated by a chromium plated brass air pump with a barrel length 8 inches and a diameter of 1 inch. The brass container has a diameter of 2¼ inches and is 3 inches long. Capacity about 1/2 pint. Piston rod is solid steel with a diameter of ¼ inch. Fitted with a piston of back-to-back cup washers. Metal handle.

Left :- The nozzle with the cap removed. This sprayer works on the same basis as the Glenbourne in that air is pump into the container and also passes directly to the nozzle.



Left :- The KING model as illustrated in a catalogue believed to date to around 1939. This would be an earlier version than that shown in the photograph.

Hand Sprayers - The COSMO

Known from a catalogue dated around 1939. Advertised as a strong sprayer for continuous hard use in the home, cinemas, public buildings, office, factories and in greenhouse and garden. For spraying disinfectants and pesticides. Very fine spray. It works on the same principal as the KING, using an air pump to pressurise the container and at the same time force some air directly to the nozzle to mix with the liquid from the container.

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Various versions of this sprayer are known. The manufacturer is not always on the sprayer. In some the manufacturer and model are identified with an oval plate and in others, Nesthill is engraved on the pump barrel. There are versions with painted barrels and tanks. The position of the filler cap varies.

Above :- [974] {3} The COSMO sprayer model 1145. Brass barrel length 9 inches and diameter 1¼ inches. Green painted finish. No markings. Piston rod is solid steel with a forward facing cup leather cup washer backed by a large metal washer. Container diameter 4 inches and height 4 inches. Capacity about 1½ pints. Painted brown. The front valve is a ball valve with a $^{3}/_{16}$ inch brass ball. Air from the pump passes into the container and directly to the nozzle. There is a metal supply tube running from the bottom of the container to the nozzle. Air pressure forces liquid through this tube to the nozzle where it combines with air coming directly from the pump. The air and liquid mix forms a very fine spray. The container is filled through the top.

Left :- Brass plate from a COSMO sprayer (not the sprayer pictured above).

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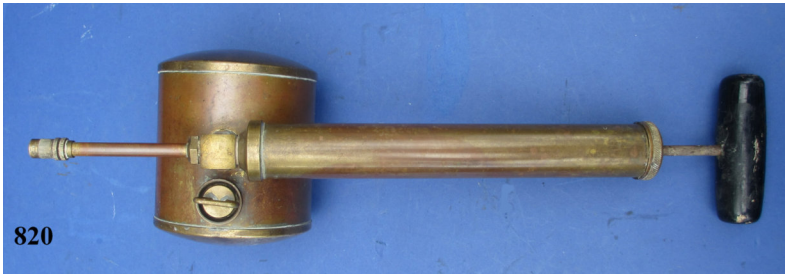

Above :- [820] {3} The COSMO sprayer model 1145. Brass barrel length 9 inches and diameter 1¼ inches. Engraved on the barrel is NESTHILL COSMO SPRAYER SHEFFIELD. Piston rod is solid steel with a forward facing cup leather cup washer backed by a large metal washer. Container diameter 4 inches and height 4 inches. Capacity about 1½ pints. The front valve is a ball valve with a $^{3}/_{16}$ inch brass ball. Air from the pump passes into the container and directly to the nozzle. There is a metal supply tube running from the bottom of the container to the nozzle. Air pressure forces liquid through this tube to the nozzle where it combines with air coming directly from the pump. The air and liquid mix forms a very fine spray. The container is filled through the top.

Left :- The end of the piston rod and the piston. Note the buffer spring on the piston rod.

Left :- The ball from the front valve of the pump. This is held in by the screw (right).

Left :- The nozzle with the cap removed. Liquid and air are combined here to give a fine spray.

Below :- Brass plate from a COSMO sprayer (not the sprayer pictured above).

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Hand Sprayer - The MAXIMA

This sprayer is included in Nesthill because of its similarity to the COSMO. Apart from the name it appears identical to Boots handheld sprayer which I think was made by Nesthill. There is no documentary evidence that it is a Nesthill sprayer. It has MADE IN ENGLAND engraved on the barrel, which is commonly seen on W. T. French sprayers, but nothing similar appears in any of the W. T. French catalogues I have access to.

Above :- [980] The Maxima Handheld Sprayer. Barrel length 9 inches and diameter 1¼ inches. Container 4 inch diameter and height 4 inch. Engraved 'Made in England'. This is an air-pump atomising sprayer. The barrel is a simple air pump with a forward facing leather cup washer supported by a large metal washer. This large metal washer is identical to the one used on the COSMO as is the spring. The pump pressurises the container forcing liquid out through the nozzle, but air is also forced out through the nozzle mixing with the liquid to form an atomised spray. The front valve may be a ball valve but without destructive dismantling this can't be confirmed. Piston rod is solid steel and has a spring. Two nozzles giving fine and medium spray.

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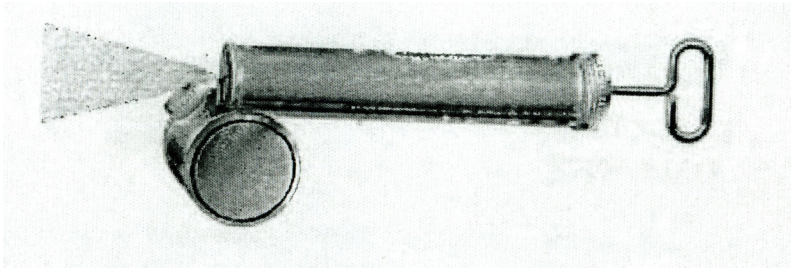
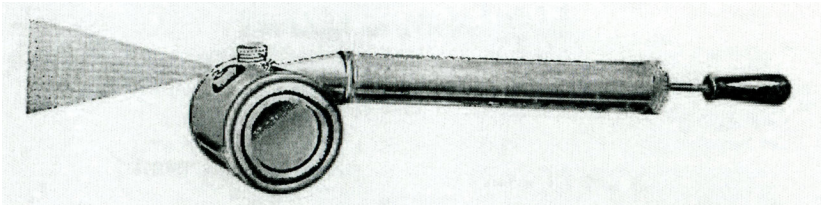
Handheld Sprayer - Model 1500 and 1501



Above :- Drawing of the 1500/1501. Known only from a catalogue dating around 1939. This is a tinplate sprayer which looks like it works on the venturi effect. where air passing over the end of a tube has a suction effect pulling liquid out of the container and mixing it with air giving a finely atomised spray. Model 1500 is plain tin and model 1501 is painted tin.

Handheld Sprayer - Model 1502, 1503 and 1504



Above :- Drawing of the 1502/1503/1504. Known only from a catalogue dating around 1930. This is a tinplate sprayer which looks like it works on the venturi effect. Model 1502 is plain tin, model 1503 is painted tin and model 1504 galvanised.

The Pixie Sprayer Model 1144

Known only from a catalogue dated around 1939. It may have been discontinued post WW II. It was a chromium plated sprayer. According to the catalogue it has a patent pending and is a registered design, but I have not been able to find either. The size is not mentioned in the catalogue, but it was small enough to keep in a pocket. This suggests it was only a few inches tall.

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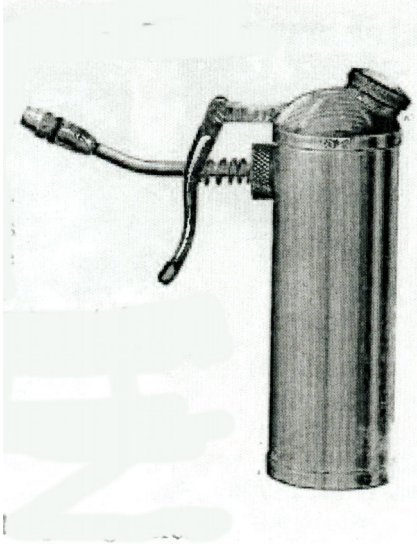
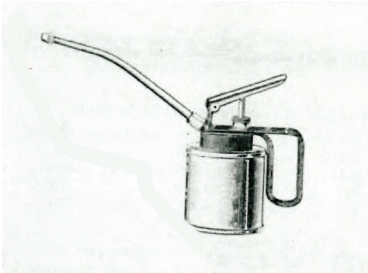


Left :- Drawing of the PIXIE from a catalogue dating around 1939.. Designed to be operated by one hand. The mechanism is probably based on a force pump.

Small Hand Sprayer - The HOLMWOOD



Model 1150. Known only from a catalogue dated around 1939. It may have been discontinued post WW II. The finish was Chrome plated and dark green. Advertised for a wide range of uses including spraying disinfectants, deodorants and insecticides.

Small Hand Sprayer - TOM THUMB

Known from various example. Available both in brass and also chromium plated. For spraying scents, insecticides and disinfectants. Known to have been available in 1937 but probably available before that. There was a 3 inch high version with a capacity a half pint, and a 6 inch version with a one pint capacity. Version with and without spring, and a version with a handle are known.

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Above :- [958] {4} The Tom Thumb sprayer. Chromium plated. Container height 6 inches and diameter 3 inches. Sping loaded plunger. Back to back cup washers. Uses a small force pump. Valves are not accessible. Engraved on the top is NESTHILL TOM THUMB SPRAYER.

Left - Brass 3 inch version with a handle.

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A

Above :- [960 {4} Tom Thumb sprayer. Brass. Container height 3 inches and diameter 3 inches. Sping loaded plunger. Back to back cup washers. Uses a small force pump. Valves are not accessible. Engraved on the top is NESTHILL TOM THUMB SPRAYER.

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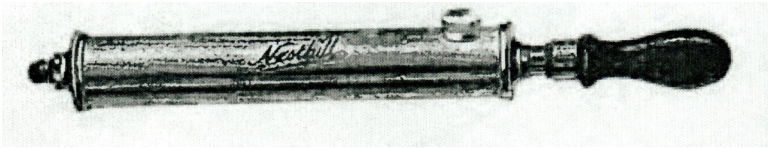
Vaporiser - The Sanitor

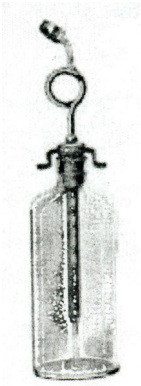
Heavily nickel plated. Used for spraying perfume, disinfectant, deodorisers in places of amusement, hospitals, sick rooms, offices and workrooms. Several models were available in different lengths all with barrel diameters of 1⅝ inches.

1120 - Barrel length 19 inches.
1121 - Barrel length 16 inches.
1122 - Barrel length 13 inches.
1123 - Barrel length 10 inches.
1124 - Barrel length 7 inches.

These sprayers are difficult to examine without destructive dismantling. A similar sprayer is shown dismantled in Chapter 13 on Cromessol Ltd.



BOTTLE Sprayer



Similar in design to the early bottle sprayers supplied by Chromessol Ltd. A finger was placed through the loop to move the pump rod up and down. The pump is based on a force pump with output through a hollow piston rod.

Left :- Drawing of the BOTTLE sprayer. Advertised as being suitable for a 6 oz bottle, which suggests that it was not supplied with the bottle.

Sprayer Accessories

These include a range of nozzles and lances for the sprayers.

Left :- Range of self cleaning limewashing nozzles.

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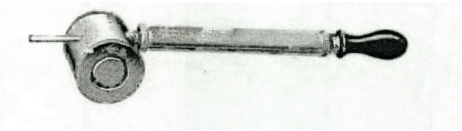
Left :- Some of the nozzles for sprayers.

Above :- Bamboo Lance. The hose from the sprayer connects to the centre. The lance and nozzles are added to the end (right). The other end has a standard drain rod connection so that additional height can be obtained.

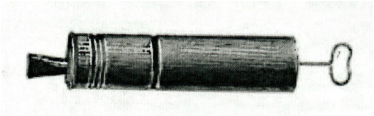
Non Sprayers Horticultural Products

These include weed exterminators, powder blowers and hose nozzles. They are not covered in detail, but some examples are shown below.

Left :- Hose nozzle.



Left :- Powder blower.



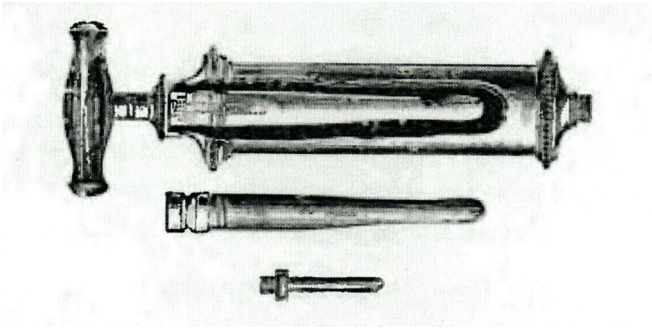
Left :- FOGMAKER powder blower.

Above :- [296] {3} The WEED EXTERMINATOR. Nickel plated brass barrel 34 inches long and 1 inch in diameter. A 40 inch version was also available. Made for Carters of Raynes Park. It has a hollow spike on one end a spring loaded button on the top which connects to a valve at the bottom. The barrel is filled with an acid (vinegar) or another weedkiller and exterminator stabbed into the weed. The button is then pressed to dispense the liquid to kill the weed.

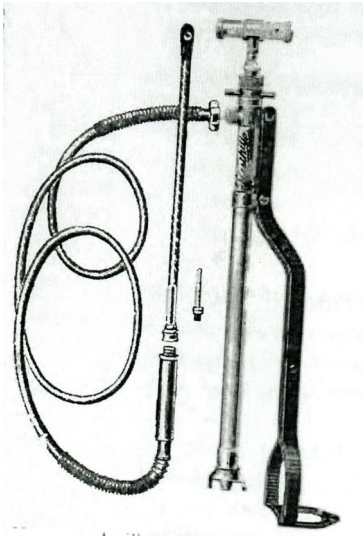
Ernest H Hill Ltd

Veterinary Products

These include pumps and syringes. Some of these look like sprayers especially if the nozzle is missing. Veterinary equipment is usually nickel plated or polished and lacquered. For some of the syringes the nozzles can be stored in the piston rod. Some examples of veterinary products are shown below.



Above :- Veterinary syringe model 134.



Left :- Model 323. The WELLINGTON continuous stream veterinary pump. Brass nickel plated. Provided with gum elastic flexible tubes.

Tools and Motoring Accessories

Ernest Hill produced a range of motoring accessories and tools for motoring and engineering. These are outside the scope of this publication.

Ernest H Hill Ltd

Catalogue 1933

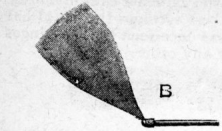
SYRINGE, "THE NESTHILL," brass with drip preventer, bend, rose, jet and spray nozzle, 20 in. by 1⅛ in. 17/6

Trade Advertisement 1946

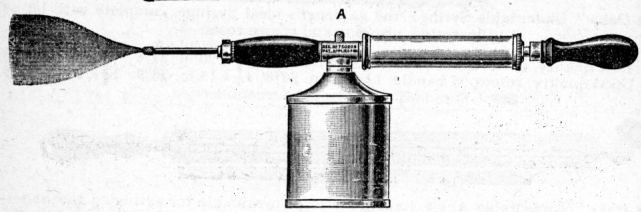
Ernest H Hill Ltd

The Country Gentlemen's Association 1937

The "Glenbourne" Sprayer (S).



Fitted with two jets, one for spraying in a horizontal direction and the other at an angle for the undersides of leaves.



This instrument gives a continuous mist-like spray and is specially valuable in the greenhouse. The container holds approximately one pint of liquid which may remain in the container ready for use without danger of evaporation.

It is calculated to give lasting satisfaction and although very substantially made of brass throughout and nickel plated, it is light and easy to use.

The "Glenbourne" sprayer is of very wide application, for, in addition to spraying insecticides, it may be used effectively for spraying perfumes, disinfectants, etc.

Each 15/-

The "Nesthill" Powder Blower (S).

This is a well made and effective Powder Blower made entirely of brass and nickel plated. Ideal for greenhouse use.

Each 4/6

The "King" Sprayer (S).

Well made of brass throughout and nickel plated. It produces a very fine spray and the container holds about half a pint of liquid.

Each 4/6

The "Tom Thumb" Sprayer (S).

A very useful miniature sprayer for use in the home, office, greenhouse, etc. Pump operated by the thumb. Made entirely of brass and plated. Sprays perfectly insecticide, disinfectants, scents, etc. Capacity half a pint.

Each 4/6

(For carriage arrangements see page 5.)

See your Member's Ticket for "C.G.A." discounts.

Ernest H Hill Ltd

Financial News 26 January 1907.

ERNEST H. HILL January 7. £12,000 (£1). To take over the busipess of brass founders and manufacturers of cycle and motor accessories, syringes, &c., carried on by E. H. Hill and H. Hill at Broomhall-street, Sheffield as Ernest H. Hill. No initial public issue. First directors (not more than two nor more then seven): E. H. Hill and H. Hill (both permanent managing directors . Debenture holders (if any) may appoint two directors. Qualification (excepy debenture directors), £250. Managing directors, £5OO each per annum.

Royal Show Manchester 8th to 12th July 1930 - Photo copyright Ernest H Hill Ltd.

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Chapter 26

Holder-Harriden Ltd

Holder-Harriden Ltd

Holder-Harriden Ltd.

35/37 Nobel Street, London EC.
1 & 2 Chiswell Street, London EC1.
6 Finsbury Square, London EC2.

Holder-Harriden Ltd were specialist in pneumatic sprayer. They were operating from about 1918 to 1939. In 1921 their address was 35/37 Nobel Street, London EC. In 1927 their address was 1 & 2 Chiswell Street, London EC1. By 1935 they were at 6 Finsbury Square, London EC2.

Left :- Drawing of a Holder-Harriden pneumatic sprayer. This appears from the drawing to be similar to the large pneumatics made by W T French and Four Oaks.

These pneumatics were made of a brass alloy or steel. They came with a hose, 20 inch lance and a swivel nozzle with two caps. Carry straps were provided so that the sprayer could be used as a backpack.

The medium versions had capacities of between 1 and 2 gallons.

Below :- The plate and pressure gauge from a similar sprayer.

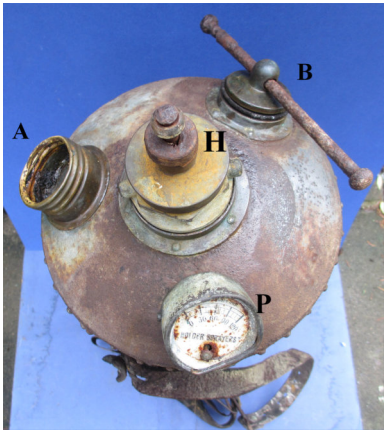
Holder-Harriden Ltd

Above :- [876] {4} Holder-Harriden pneumatic. Container height 18 inches with a diameter of 8 inches. Working capacity 2½ gallons. This is the steel version. It is missing the wooden handle, the hose, and a lance. It may also have had a tundish (shallow funnel) which fitted on the left hand screw fitting.

Holder-Harriden Ltd

Left :- The pump piston. Probably, with a single forward facing cup washer.

Above :- The pump valve. Left is the complete fitting. Centre is the valve seating. Right is the valve. The seal is a rubber washer, the remains of which can be seen at the top of the fitting.



Left :- The top of the sprayer. The fitting (A) may be a holder for a tundish (shallow funnel). A wooden handle would have been fitted to the end of the piston rod (H). The filler cap is made of brass with a steel rod (B). Pressure gauge (P).

Left :- The sprayer does not appear to have had a manufacturers plate. It may originally have had a decal. The manufacturer is identified on the pressure gauge.

Right :- Interior of gauge.

Holder-Harriden Ltd

Above :- [562] {3} Holder-Harriden small pneumatic. Container height 10 inches and diameter 5 inches. Capacity ½ gallon. Internal barrel length 9 inches and diameter $^{3}/_{16}$ inch. Solid steel piston rod with a single cup washer piston. Nozzle is a plastic spray but this may not be original. This type of sprayer is usually fitted with a lance and a spray nozzle.

Left :- The barrel and piston.

Left :- The valve. Opens on the push stroke to allow air into the container. Kept closed by the spring on the pull stroke and when the sprayer is in use.

Holder-Harriden Ltd

Left :- [919] {4} Holder-Harriden medium pneumatic. Container height 12 inches and diameter 6½ inches. Capacity 1 gallon. Internal barrel length 12 inches and diameter 1¼ inches. Solid steel piston rod with a single cup washer piston. Missing hose, lance and nozzle.

Below :- The barrel end and valve. The valve fits into the barrel with a bayonet type fitting. Spring loaded valve.

Left :- The pressure gauge.

Below :- The plate.

Holder-Harriden Ltd

New Zealand Evening Post Advertisement - November 1920 (Fairfax Media Copyright .Creative Commons New Zealand BY-NC-SA licence).

There is being exhibited at the Palmerston show a splendid pneumatic sprayer that horticulturists should make a point of seeing. Mr. R. Skelhorn, A.R.H.S. (Eng.), the sole agent, whose headquarters are in Wellington, is in charge of the display. These handy sprayers are made of virex brass alloy, and are entirely of British manufacture. The main feature of the Holder-Harriden pneumatic sprayer is that the operator can have both hands free. The importance of directing the lance with freedom but with accuracy is recognised by every grower, and if pumping and directing have to be done together, as with the ordinary type of knapsack or bucket pump, the work becomes very fatiguing. Another advantage is the self-contained powerful pump always in its place on the Holder-Harriden. This little machine is simple, light in weight, and economical on spraying fluids. See them at the show.

Holder-Harriden Ltd

1930 Advertisement

HOLDER-HARRIDEN

ALL BRITISH SPRAYERS.

Medium Knapsack BB.

Capacity : 2½ gallons.

In VIREX BRASS ALLOY, complete with self-contained pump, pressure gauge, hose, 20-in. lance, swivel nozzle with two caps, &c.

£3 10 0.

Recommended for Gardens where the full size Knapsack is not required. With a 20-foot hose, as shown, it can also be placed on the ground, and the spray worked in and out of the plants with the greatest comfort and ease.

HOLDER-HARRIDEN LIMITED

(Successors to H. HARTJEN & CO.).

35/37 NOBLE STREET, LONDON, E.C.

Holder-Harriden Ltd

1930 Advertisement

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Chapter 27

C G Lawson

C G Lawson

C G Lawson

In 1862 their address was Rockingham Brass Works, Rockingham-street, Sheffield. Also, known from Ecclesall Works, 243 Rockingham Street, Sheffield. They were German Silver (an alloy of copper, nickel, and zinc) and Brass Founder and General Brass Turner. Garden syringes are specifically mentioned in an 1859 commercial directory for Sheffield. Mentioned by the Yorkshire Agricultural Society on 4 August 1860 as a manufacturer of garden syringes and engines.

Above :- [179] {4} Syringe with manufacturers plate which reads C.G.LAWSON PATENT SHEFFIELD. Barrel length 18 inches and diameter 1½ inches. Two rose nozzles and one jet nozzle. Holders on barrel for nozzles not in use. Hollow brass piston rod ½ inch in diameter. It appears to have a special piston assembly with a single forward facing cup washer backed by a cup shaped metal washer. This may be the self oiling piston. The patent may refers to this but I have not be able to trace it.

C G Lawson

Above :- [908] {5} Syringe with manufacturers plate which reads WINGFIELD ROWBOTHAM & CO SHEFFIELD C G LAWSON SELF OILING. WIngfield Rowbotham & Co of Sheffield were formed in 1751. In 1898.they merged with Thomas Turner and Company. Both company names continued in use with Wingfield Rowbotham & Co in use to at least 1914. Wingfield Rowbotham & Co were manufacturers of steel items and also a general merchant. It is assumed that this is a C G Lawson syringe and they were acting as retailers in this instance. Thomas Turner and Company continued in various forms into the 1960s. The syringe is 18 inches long with a diameter of 1½ inches. It is fitted with a ½ cotton reel type piston. The piston rod is hollow brass ⅝ inch in diameter. Supplied with a jet nozzle and two rose nozzles. Short tube on air vent.

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Chapter 28

Martineau & Smith

James Southerton & Son

Martineau & Smith

Martineau & Smith

58/62 Holloway Head, Birmingham. By 1935 at MartSmith Works, Sutton Coldfield, Birmingham.

The businesses covered in this chapter have a history spanning more than 150 years. However, sprayers only featured for a small part of this. The business as it existed when sprayer production ceased around 1947 was made up of two separate firms which amalgamated around 1935.

The partnership of Martineau and Smith was established in the late 1820s *(note 1).* The partnership that existed in 1861 involved Robert Martineau (1798-1870), his son Robert Francis Martineau (1831-1909), Brooke Smith Senior (1797-1876 and his son Brooke Smith Junior (1828-1896). On 17 January 1861 Robert Martineau left the partnership *(note 2).* Brooke Smith Senior (1797-1876) is shown in the 1861 census as a cock founder employing 50 men and 50 boys *(note 3).* Brooke Smith, of the firm of Martineau and Smith has a provisional patent pending (2350) dated 19 September 1861 for the invention of improvements in taps and cocks *(note 4.* On the 31 January 1866, Brooke Smith Senior left the partnership leaving just his son Brooke Smith Junior and Robert Francis Martineau as partners *(note 5)*. Benjamin Holmes Bennett (1845-1928) was involved in the partnership by 1885 and left the partnership on 31 December 1887 *(note 6).* James Smith (1847-1932), the mayor of Birmingham in 1895 was involved in the business at some point *(note 7).* Possibly, with and then following Robert Francis Martineau. Martineau and Smith were making sprayers by 1925 *(note 8)*.

The other firm involved was James Southerton & Son. The founding of this firm is said to date back to 1814 (*note 9)* but there is little evidence to support this. The name appears to have its origins in a business started around 1870 by James Southerton (1843-1899) (*note 9)* . He was followed by Harry James Sutherton (1871-1940). Jas. Southerton & Son at Sandy Lane is mentioned in the Birmingham Mail in 1914 *(note 10)*. Harry James Southerton seems to have been in charge at the time of his death in 1940 *(note 9).* Harry James Southerton was followed by his son James Dedicote Southerton ((1899-1973). He was the General Manager in 1939 *(note 13).* They do not seem to have made sprayers until their involvement with Martineau & Smith.

Martineau & Smith

Jas. Southerton involvement with Martineau and Smith is first mentioned in 1935 when there are advertisements showing them trading as *Jas. Southerton & Son, Martineau & Smith* at their new works *(note 11)*. They may have taken over when James Smith died in 1932.

The last sprayer advertisements I know of appeared in 1947 *(note 12)*. James Southerton Martineau and Smith Ltd had been formed by 1947 with James D Southerton as Chairman *(note 13)*. In 1977 they formed an association with ornamental brassware maker *Peerage of Birmingham*. At that time James Southerton were described as makers of gas and water fittings. By 1986 *James Southerton Ltd* had been formed (note 14) and by 1989 the company had become a subsidiary of Newman Tonk *(note 15).*

Notes

1. *Birmingham Civic Society. Possibly as cotton importers. Brassfounders 1830s.*
2. *London Gazette notice 26 February 1861, covering Robert Martineau leaving the partnership on 17 January 1861. This lists the current and remaining partner*
3. *Cenus 1861 taken on 7 April 1861.*
4. *London Gazette 11 October 1861. Patent* (2350).
5. *London Gazette 26 June 1866. Notice of Brooke Smith Senior leaving the partnership on 13 Jan 1866.*
6. *Proceeds of the Old Baily 14 September 1885 has Benjamin Holmes Bennett as a witness for Martineau & Smith. London Gazette 10 February 1888. Notice of Benjamin Holmes Bennett leaving the partnership 31 December 1887. Confirming that Brooke Smith Junior and Robert Francis Martineau are the remaining partners.*
7. *According to Edgar N Hiley in the Book Brass Saga published in 1957,*
8. *A number of newspaper articles for MARTSMITH products start in 1925. The first one I am aware of is North Wilts Herald 23 June 1925.*
9. *According to Edgar N Hiley in the Book Brass Saga published in 1957 James Southerton and Son was founded in 1814. Evening Despatch 8 January 1940 contains details of the funeral of Harry James Southerton. It mentions that his father started the firm in 1837. His father was not born by then, making the early history unclesr.*
10. *Birmingham Mail 12 March 1914., Boy wanted for gas fitting manufacturer Jas. Southerton 14 Sandy Lane, Bordesley.*
11. *Country Life Saturday 22 June 1935. Mentions that owing to steady growth they have been obliged to open new works.*
12. *Advertisement in Benn's Encyclopaedia of Hardware 1947. They did not appear in the 1960 edition.*
13. *Daily Record 1 September 1947 mentions J Southerton, Matineau and Smith Ltd. Erdington News 7 January 1950. The Birmingham Daily Post 11 April 1956 mentions a J D Southerton as chairman of J Southerton Martineau, and Smith Ltd.*
14. *Sandwell Evening News 1 July 1986.*
15. *Major Energy Companies 1989/1990, Shown as a subsidiary ot Newman Tonk.*

Martineau & Smith

Models and Ranges: CONNAUGHT, DEVON, EMPIRE, FLORISTS FAVOURITE, HEADLAND, ORCHARD, OXFORD.

The company sold a wide range of sprayers, including syringes, pneumatic sprayers, mobile pumps, stirrup pumps, and backpack sprayers. Also steam and water fittings and plumbers' brasswork. According to a 1940 advertisement they had a range of over 200 sprayers. Several of the sprayers have a strong resemblance to sprayers made by other manufacturers so I think it probable that they were buying in sprayers to complement their range.

Small Pneumatic

Above :- The S 44 pneumatic hand sprayer. Available in 1939 and possibly before. Container capacity 5 pints with a working capacity of 3½ pints. This one is pictured at Oakham Treasures with permission.

Martineau & Smith

A

Above :- [984] {4} The S 29 pneumatic hand sprayer. Available in 1940 and possibly before. Container height 7 inches and diameter 4 inches. Capacity 1½ pints. Lever activated using the thumb pushing upwards to spray. Internal air pump with single cup washer. Valve type unknown.

Martineau & Smith

Left :- The S 60 pneumatic hand sprayer. Available in 1940 and possibly before. Container capacity 4 pints with a working capacity of 3 pints. The handle is hollow to allow a pole to be pushed into it to gain extra height for spraying.

Backpack Sprayers

Right :- The S 42 pneumatic backpack sprayer. Available in 1, 2 or 3 gallon spraying capacity. Available in 1935 and probably before. Mentioned in Carters Blue Book of Gardening 1939.

Martineau & Smith

Shoulder Sprayer

Left :- The S 43 pneumatic shoulder sprayer. Available in 1927 and possibly before. Spraying capacity 1 gallon.

Self Contained Spray Gun

Above :- The self contained spray gun has a SOLO sprayer attached to a container which is marked MartSmith. The operation of the sprayer is covered in Volume 1 of this series. Available in 1940 and probably before.

Martineau & Smith

Stirrup Pump

Left :- The EMPIRE pump model No. S 20. Advertised as having brass ball valves. It has an air chamber at the top of the barrel. Also available was the EMPIRE LIGHT which had a stirrup handle. A spraying lance was an optional extra. Available in 1927.

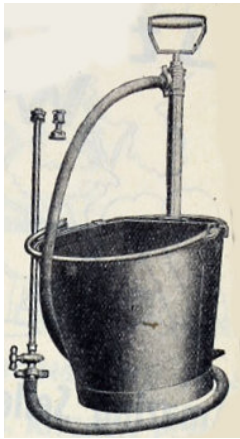
Bucket Sprayer

Left :- ORCHARD Limewashing machine model No. S 26A. Capacity 6 gallons. It appears to be fitted with a similar pump to that used in the EMPIRE, but with a lever pump arm. It was available with an agitator.

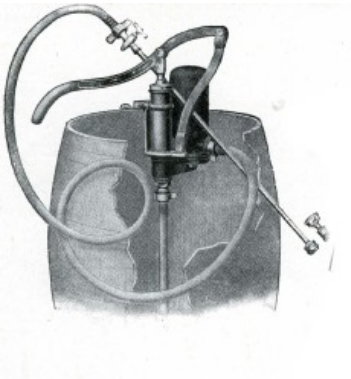
Below :- The ORCHARD SPRAYING MACHINE model No. S 27A. A mobile version of the ORCHARD.

Martineau & Smith

Left :- The ORCHARD spraying machine. Model No. S 24A the static version with handle not a lever. Available in 1927.



Left :- The LIGHT BUCKET Model No. S 221. Based on the EMPIRE LIGHT with the stirrup handle. Capacity 3½ gallons. Known from 1938 and 1940 advertisements.



Detachable Pump

Left :- Barrel Pump Model No. S 34. The design of this seems to be unusual. From the illustration it looks like a force pump with an air chamber, but the outlet is not in the normal place. Came with an agitator. Advertised in 1940.

Martineau & Smith

Mobile Pumps

Left :- The DEVON spraying machine model No. S 38. Galvanised tank with a capacity of 18 gallons. Brass pump. It appears to be a force pump sprayer with an air chamber. Came with or without a pressure gauge. It had 15ft of armoured hose, a spraying lance, and spray and rose nozzles. The wheels were iron and the container came with a wrought iron rest and bolted cover. Advertised in 1927,1938 and 1940. Note that in the 1927 advertisement this sprayer is incorrectly labelled as the CONNAUGHT.

Left :- The CONNAUGHT spraying machine model No. S 31. Galvanised tank with a capacity of 18 gallons. Brass pump. It appears to be a force pump sprayer with an air chamber. It had 10ft of hose, a spraying lance, and spray and rose nozzles. Advertised in 1927 and 1940. Note that in the 1927 advertisement the DEVON sprayer is incorrectly labelled as the CONNAUGHT.

Left :- HEADLAND portable spraying plant model No. S 50. A double action brass pump mounted on a barrow. Input is via a suction hose which can be connected to a tank. Could also be used to pump water from a stream etc.

Martineau & Smith

Mobile Pneumatic

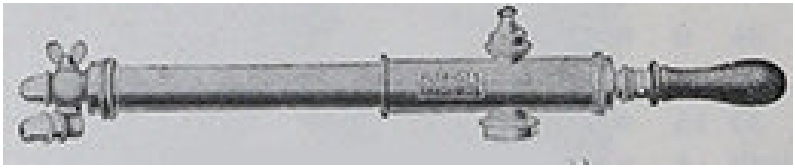
Left :- Pneumatic 10 gallon sprayer model No. S 62. A large 10 gallon sprayer on a trolley. In the 1927 advertisements, but not after. Model S 75 was similar, but had two wheels.

Knapsack Sprayer

Left :- Knapsack sprayer. Model No. S 3. Appears to be a standard knapsack with a diaphragm pump.

Martineau & Smith

Syringes



Above :- FLORIST FAVOURITE spraying syringe. Available in two sizes and various combinations of nozzles. Barrel length 14 inches with a diameter of 1 inch or barrel length 16 inches with a diameter 1¼ inches. Model S 795A with no additional nozzles. Model S795B with an additional rose nozzle. Model S795C with rose and jet nozzles. In the 1927 advertisement but not mentioned later. These syringes both in name and design are very similar to the W T French FLORIST FRIEND No. 2.

Left :- Advertisement in Benn's Encyclopaedia of Hardware 1930.

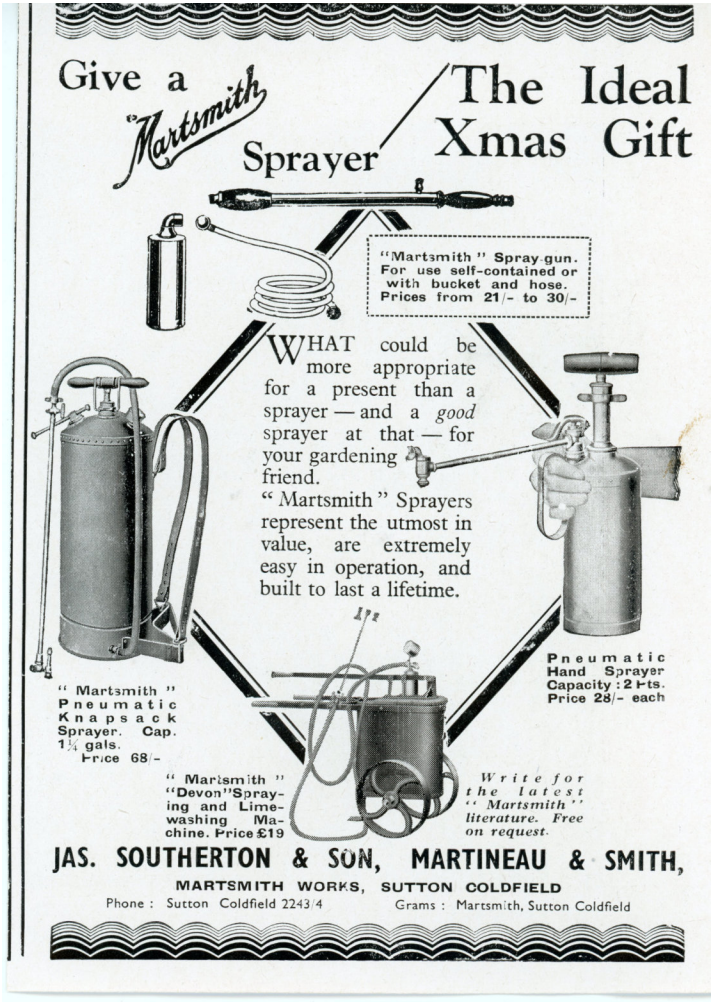
Left :- Advertisement in Benn's Encyclopaedia of Hardware 1947.

They did not appear in the 1960 edition.

Martineau & Smith

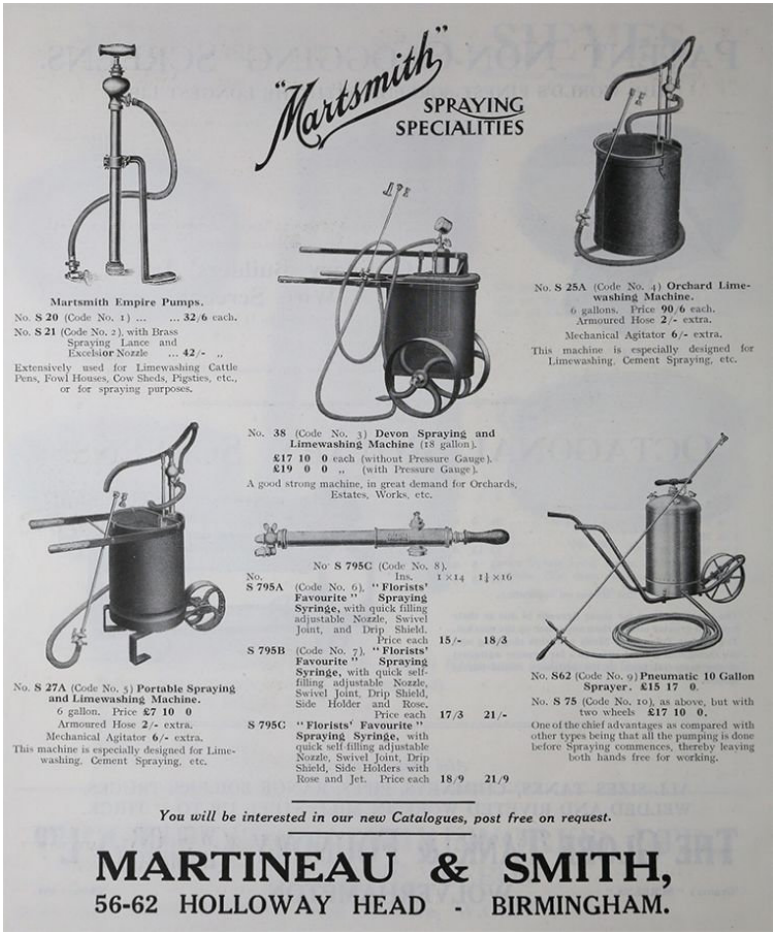
Martineau & Smith

Advertisement 1938



Martineau & Smith

Advertisement 1927. Copyright Grace's Guide to British Industrial History.



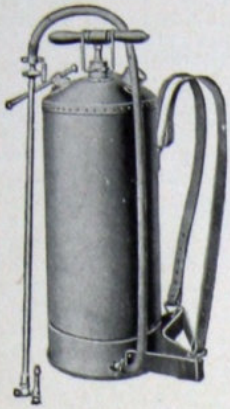
Martineau & Smith

Advertisement 1927. Copyright Grace's Guide to British Industrial History.

Martineau & Smith

Advertisement 1937. Copyright Grace's Guide to British Industrial History.

NOW is the TIME to SPRAY



If You Want the Best Results

GET YOUR SPRAYER NOW AND BE SURE IT IS A "Martsmith"

There's a huge range to select from at prices to suit the needs of all—for every conceivable spraying requirement.

PRICES from **30/-** to **£125.**

"MARTSMITH" SPRAYERS are well made, simple in operation, no intricate parts to get out of order, and built to last a lifetime.

"Martsmith" S.42 Pneumatic Knapsack Sprayer. Prices:
1¼-gall. 68/-
2½-gall. 95/-
4-gall. 113/-

"Martsmith" Devon Spraying Machine. Capacity 18 gallons. Complete with pressure gauge, etc. Price
£19 : 0 : 0

Your Ironmonger stocks **"Martsmith"** or if unable to obtain details from him, write for Catalogue to us, and we will tell you the exact sprayer most suited to your particular needs.

Delivery all Machines in Stock.

Owing to the steady growth in business, we have been obliged to open new works.

Note new title and address—

JAS. SOUTHERTON & Son, MARTINEAU & SMITH,
Martsmith Works,
Sutton Coldfield.

Telephone:
Sutton Coldfield 2243/4.

'Grams:
"Martsmith, Sutton Coldfield."

Martineau & Smith

Advertisement 1938. Copyright Grace's Guide to British Industrial History.

Martineau & Smith

Advertisement 1939. Carter's Blue Book of Gardening

R PNEUMATIC KNAPSACK AND SHOULDER SPRAYERS

Simplest and most reliable Pneumatic Sprayers on the market. Suitable for all spraying mixtures—gives a fine mist-like spray

S. 44 PNEUMATIC HAND SPRAYER
Can be comfortably carried and operated by one hand. Container capacity, 5 pints. Spraying capacity, 3½ to 4 pints.
Price **45/-**

842.—THE "MARTSMITH" PNEUMATIC KNAPSACK SPRAYER

Container Capacity, 1¼ gallon Spraying Capacity, 1 ,,	Price **68/-** each
Container Capacity, 2½ ,, Spraying Capacity, 2 ,,	Price **95/-** each
Container Capacity, 4 ,, Spraying Capacity, 3 ,,	Price **113/-** each

399

Martineau & Smith

Advertisement 1940.

Martineau & Smith

Advertisement 1940.

Martineau & Smith

London Gazette

NOTICE is hereby given, that the Partnership heretofore existing between us the undersigned, Robert Martineau, Brooke Smith the elder, Robert Francis Martineau, and Brooke Smith the younger, carrying on business as Merchants, Factors, and Brass Cock Founders, at Birmingham, in the county of Warwick, under the firm of Martineau and Smith, was dissolved as far as regards the said Robert Martineau, by effluxion of time, as from the 17th day of January, 1861; and that all debts due to the said partnership now dissolved, are to be paid to the continuing partners, the said Brooke Smith the elder, Robert Francis Martineau, and Brooke Smith the younger, who will discharge all debts owing by the said late partnership. —Dated this 20th day of February, 1861.

Robt. Martineau. *Brooke Smith.*
Robert Francis Martineau. *Brooke Smith, junr.*

NOTICE is hereby given, that the Partnership heretofore subsisting between us the undersigned, Brooke Smith the elder, Robert Francis Martineau, and Brooke Smith the younger, of Birmingham, Cockfounders, Merchants, and Factors, under the firm of Martineau and Smith, is dissolved by mutual consent, so far as relates to the said Brooke Smith the elder, as from the 13th day of January last. All debts due to or from the said firm will be received or paid by the said Robert Francis Martineau and Brooke Smith the younger, by whom the business will be carried on under the same firm.—Dated 11th June, 1866.

Brooke Smith, senr.
Robert Francis Martineau.
Brooke Smith, junr.

NOTICE is hereby given, that the Partnership hitherto subsisting between the undersigned, Robert Francis Martineau, Brooke Smith, and Benjamin Holmes Bennett, under the style of Martineau and Smith, at Holloway Head, Birmingham, in the county of Warwick, in the trade or business of Brass Founders, Merchants, and Factors, and Proprietors and Publishers of Martineau and Smith's Hardware Trade Journal, has been determined, as on and from the 31st day of December, 1887, so far as relates to the said Benjamin Holmes Bennett.— As witness our hands this 6th day of February, 1888.

Robert Francis Martineau.
Brooke Smith.
Benjamin Holmes Bennett.

Martineau & Smith

London Gazette

1972

FACTORIES ACT 1961

EMPLOYMENT OF WOMEN AND YOUNG PERSONS

IN accordance with Section 117 of the Factories Act 1961, the Secretary of State for Employment hereby gives notice that, during the month ending 30th June 1972 he has made special exemption orders relating to the employment of women and/or young persons at the following factories:—

James Southerton, Martineau and Smith Ltd., Martsmith Works, Coleshill Road, Sutton Coldfield.

11 October 1861

2350. To Brooke Smith, of the firm of Martineau and Smith, of Birmingham, in the county of Warwick, Manufacturers, for the invention of "improvements in taps and cocks."

Evening Despatch 8 Jan 1940.

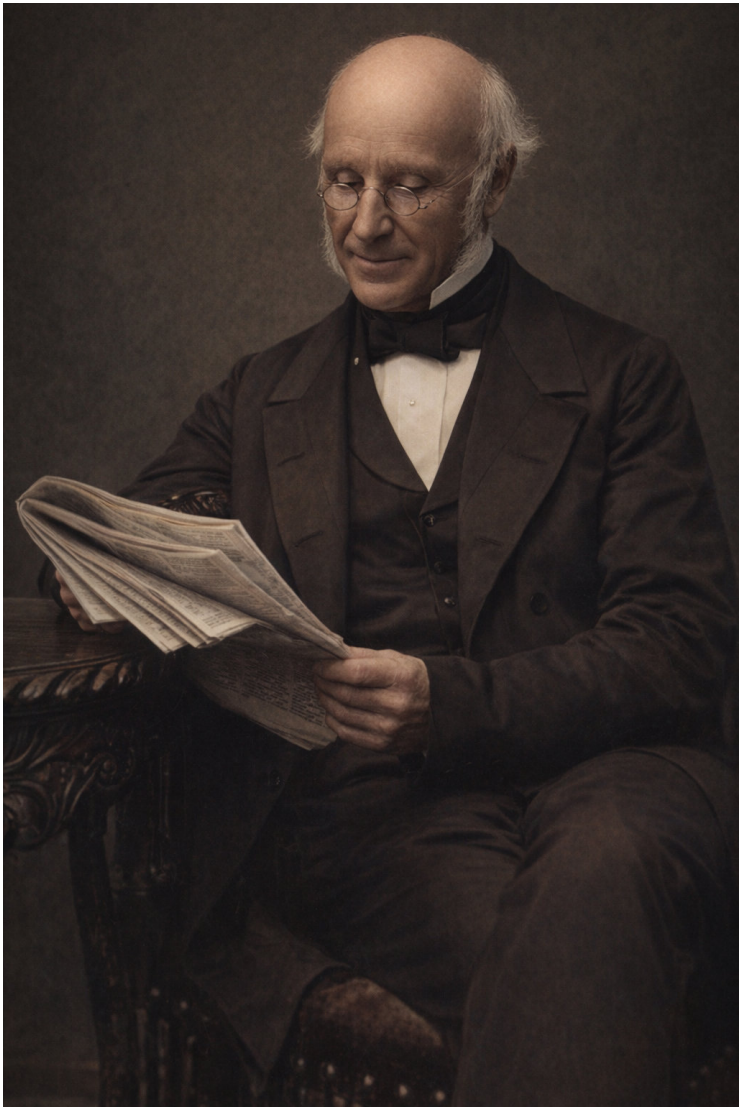
The funeral took place to-dav of Mr. Harry James Southerton, of the Manor House, Solihull. was proprietor of the firm of James Southerton and Son, Martineau and Smith, brass founders, of Martsmith Works, Sutton Coldfield, His father founded the firm of James Southerton and Son in 1837. Of 16 employees who formed a guard of honour eight had completed 40 years' service with the firm.

Wolverhampton Express and Star 8 Nov 1977

ON Peerage expansion The recent business association between ornamental brassware maker Peerage of Birmingham and Jas. Southerton, Martineau and Smith, Sutton Coldfield, has given rise to a £250,000 Peerasge foundry expansion plan to allow the production of a wide range of castings,, valves and fittings for manufacturing industry. Up to 100 new jobs will be created at the two companies. . Southerton, Martineau and Smith, a maker of gas and water fittings, has formed a "Mutual benefit" link with Peerage.

Martineau & Smith

Brooke Smith Senior (1797-1876)



Martineau & Smith

J D Southerton. President 1797-1876) National Brassfoundry Association

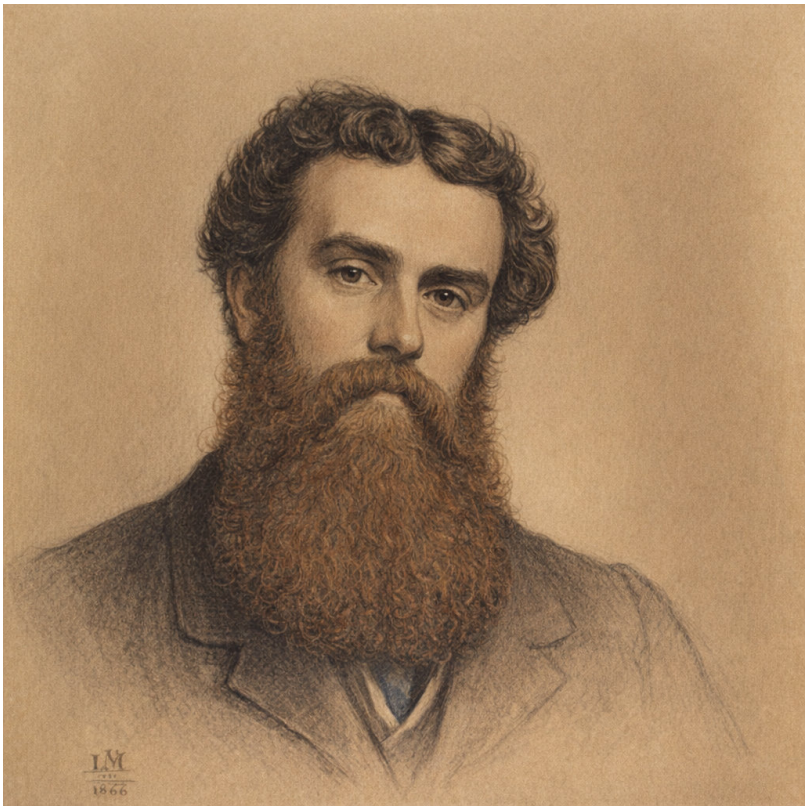
5163

SOUTHERTON, James Dedicoat
28, Tennyson Road, Small Heath, Birmingham

Born 9th Jan. 1899 *at* Birmingham
Nationality British
Rank, Regiment, Profession Flight Officer, R.N.
Certificate taken on Maurice Farman Biplane
At Royal Naval Air Station, Chingford,
Date 17th July 1917.

Martineau & Smith

Robert Martineau (Born 1798 Norwich - Died 1870 Birmingham)



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Chapter 29

Metal Box Co Ltd

Quadrant Stanmore

Metal Box Co Ltd

Metal Box Co Ltd

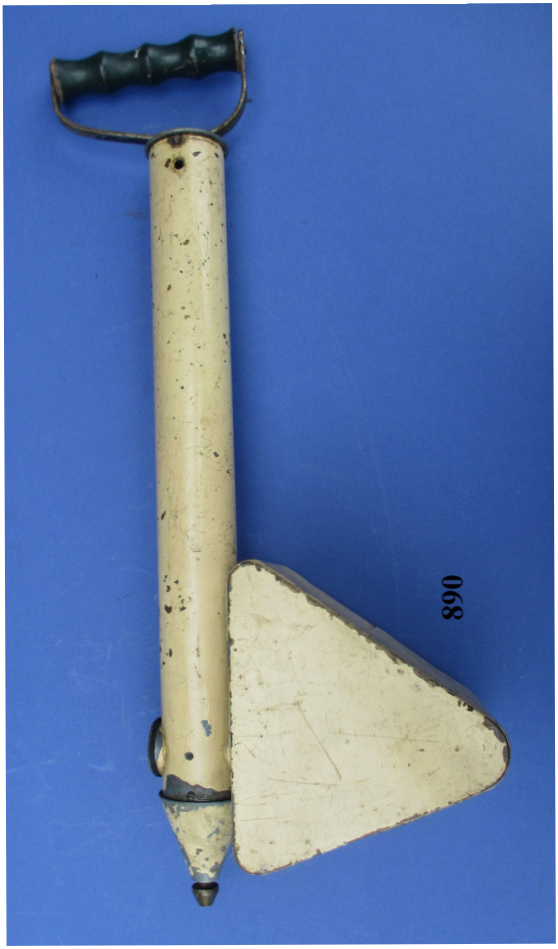
Thought to have had its origins in a company of 1810. In 1949 the head office is shown as The Langham, Portland Place, London W1. In 1960 at 37 Bakers Street, London W1. They had factories all over the country.

The Metal Box Co Ltd made a variety of metal products under the Worcester Ware name. Including tins, trays, bread bins, waste bins and sprayers. One sprayer uses Patent Nozzle (GB628083A) dated 22 August 1949 by Edward George Cribb, 8 Brockley Avenue, Stanmore, Middlesex. Edward George Cribb of Stanmore was involved in a company called QUADRANT CARBON & METAL PRODUCTS which was wound up in 1932. He also has another non-sprayer related patent (GB680632A - 8 October 1952) which links him to Quadrant Works, Cumberland Road, Stanmore. A company called QUADRANT GARDEN HOSE SPRAY LTD was formed in 1938, They are probably responsible for the 1939 advertisement for the garden hose attachment which used various cartridges (DERRIS, NICOTINE, BORDEAUX MIXTURE, PYRETHRUM, SULPHUR, ARSENATE OF LEAD). The advertisement has an address of Quadrant Laboratories, Cumberland Road Stanmore. How Quadrant and Metal Box are linked is not fully understood.

Above :- [373] {4} The Q Sprayer. Painted tinplate. This may have been made by the Metal Box Co Ltd or by Quadrant Carbon and Metal Products. Container 3½ X 2½ X 2 ½ inches holding about ¼ pint. Spray nozzle. Solid steel piston rod $^{3}/_{16}$ inch in diameter. Forward facing leather cup washer with large steel washer backing. Barrel length 5 inches with smallest diameter 1⅛ inches. Barrel end cap is made of wood. Handle is wood. There will be a valve at the front of the barrel, but this is not accessible without destructive dismantling. Internally the sprayer has two tubes running to the nozzle. One ends at the bottom of the container and feeds liquid to the nozzle when the sprayer is pumped. The other tube connects directly from the air pump and provides air which mixes with the liquid to give a fine spray. It is this which is the subject of the patent.

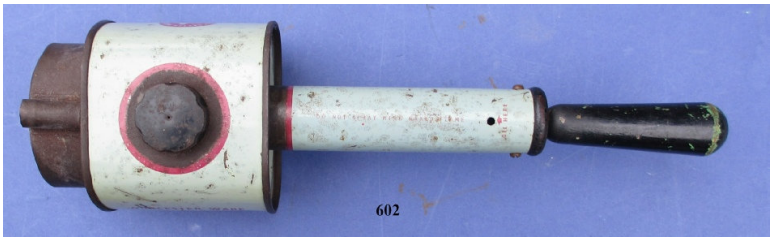
Metal Box Co Ltd

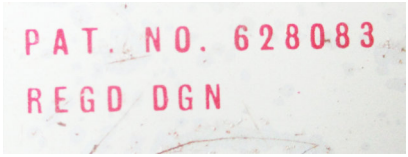
Above :- [373] {4} piston and logo.



Left :- [890] {4} Tinplate Q Sprayer. Barrel length 12 inches with a diameter of 1½ inches. Single cup washer on a steel piston rod. Filled from top. Capacity about 1 pint. This appears to be a simple pneumatic sprayer with no direct airflow from the pump to the nozzle. The nozzle is adjustable by turning. Label reads "MADE IN ENGLAND Q SPRAY QUADRANT STANMORE".

Metal Box Co Ltd

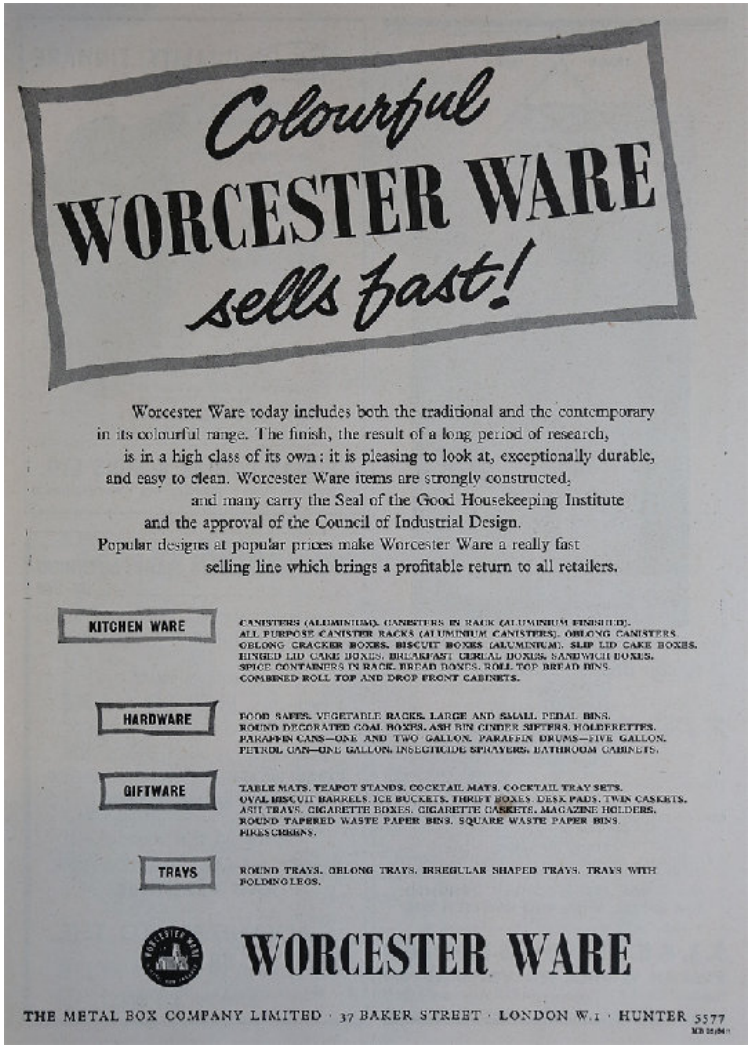




Above :- [602] {3} The Worcester Ware sprayer. Painted tinplate. Container 3 x 3 x 3 inches holding about ¼ pint. Spray nozzle. Solid steel piston rod $^{3}/_{16}$ inch in diameter. Forward facing leather cup washer with large steel washer backing. Barrel length 5 inches with smallest diameter 1 $^{3}/_{16}$ inches. Barrel end cap is made of wood. Handle is wood. There will be a valve at the front of the barrel, but this is not accessible without destructive dismantling. Internally it differs from the Q Sprayer. in that It appears to have a tinplate connection from the barrel to the nozzle. However, it would have worked in the same way.

Metal Box Co Ltd

Advertisement 1961. Copyright Grace's Guide the British Industrial History.



Metal Box Co Ltd

Advertisement 1955.

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Chapter 30

Henry Milward & Sons Ltd

Henry Milward & Sons Ltd

Henry Milward & Sons Ltd - Washford Mills, Redditch

Mainly known for the manufacture of needles the history of the company can be traced back to 1676. At one point they were the largest manufacturer of its type in the world, producing knitting needles, surgical needles, and fishing tackle, from a number of factories both in the UK and globally.

In 1912 John James and Sons merged into Henry Milward and Sons and a new board was announced. Members of the board consisted of C.B. James as chairman and C.F. Milward as deputy chairman, H.T. Milward, A.D. Bartleet and C.E. James.

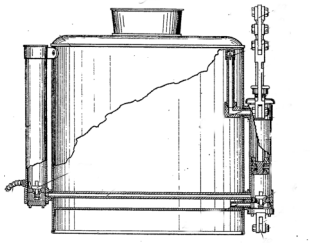
Exactly when they diversified into the manufacture of sprayers is unknown. However, the earliest involvement I am aware of is a 1923 patent. The manufacture of sprayers probably ended in the mid 1930s. However, as a needle manufacturer the company did continue in various forms and under various names, one of which still exists today.

Left :- The IRON ARM trademark used by Henry Milward & Sons Ltd.

I am only aware of four sprayers, but they may have made others. These are a rucksack sprayer, a stirrup pump, a suction stirrup pump, and a bucket sprayer. Henry Milward & Sons Ltd and S N Mole have a patent GB215127A for a knapsack (rucksack) sprayer. This was applied for on 16 February 1923 and published on 8 May 1924. Seth Norman Mole has an earlier patent GB186735A accepted 12 October 1922 for a spray nozzle. This was later adapted in a patent GB204970A by Henry Milward & Sons Ltd and Seth Norman Mole completed 11 October 1923. I cannot find any advertisements for the rucksack sprayer, but there are advertisements for the stirrup pump. In 1928 and 1929 there are advertisements for the stirrup pump for use in car washing. In 1930 there is an advertisement for the suction version and the stirrup pump is mentioned in newspaper articles. In the Warwick and Warwickshire Advertiser dated 30 July 1932 there is an

illustrated advertisement which mentions the Minor No. 0 and the larger No. 1. In the Evening Despatch dated Friday 12 August 1932 there is an article which mentions the No. 0 and refers to the “Sprayers” Department at Redditch where a catalogue can be obtained. The pump used in the Bucket Sprayer is based on patent GB201280A by Henry Milward & Sons Ltd and Seth Norman Mole. This was applied for on 10 May 1922 and published on 2 August 1923.

Backpack Sprayer (Rucksack)



Above :- The sprayer is of the force pump type with a separate air chamber. The pump on the right pumps liquid from the container to the outlet which is at the bottom of the pressure chamber (left). Some liquid enters the air chamber and pressurises the air it contains. This pressurised air continues the spraying while the pump barrel is filling. The valves are of the stud type.

Henry Milward & Sons Ltd

Stirrup Pump

Another version of the stirrup pump (Model No. 1) is known. This is similar, but it has a 'D' shaped handle similar to the one on the bucket sprayer.

Left :- [629] {4} The Iron Arm Stirrup Pump. Iron Arm logo is embossed on air chamber. Brass barrel length 16 inches and diameter 1 inch. Piston rod is hollow brass with a diameter of ⅝ of an inch. This acts as an additional air chamber. Iron stirrup. The input (foot) valve is controlled by a stud and had a strainer. The piston is of the cotton reel type. It would have been supplied with 3 ft of hose and with jet, mist spray and fan spray nozzles.

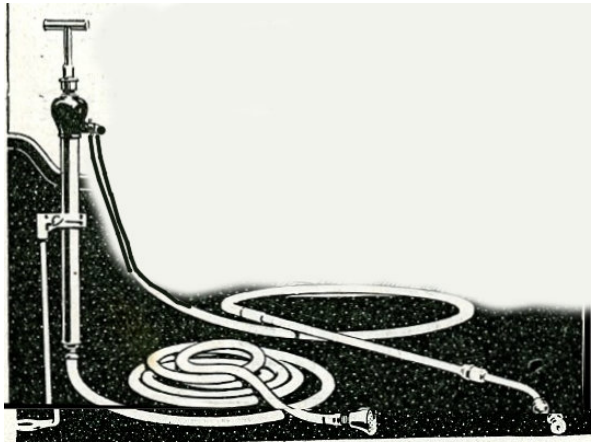
Left :- The Iron Arm logo embossed on the air chamber.

Below :- The foot valve. Showing the top of the stud which forms the valve.

Left :- The foot valve and piston. The piston is missing the padding.

Henry Milward & Sons Ltd

Portable Sprayer (Suction Stirrup Pump)



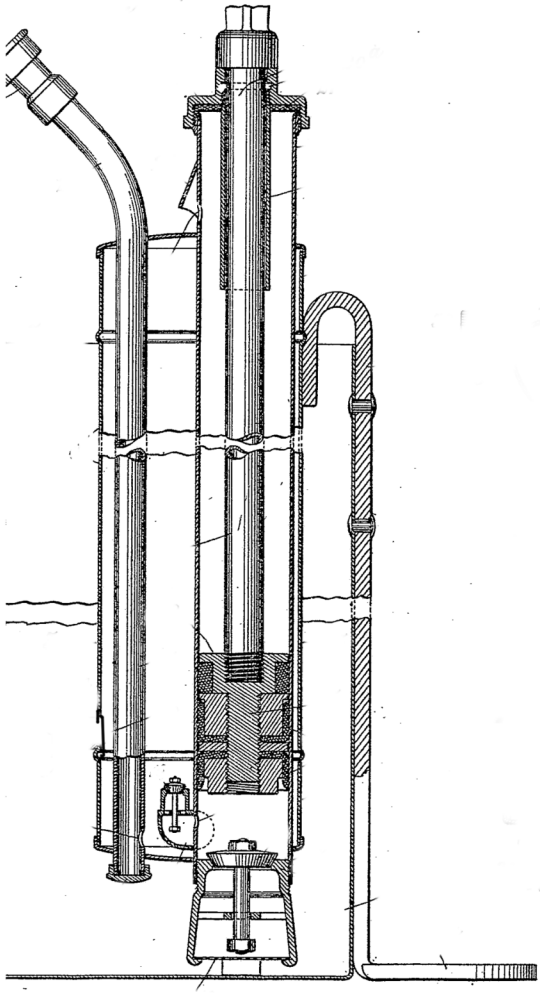
Above :- The Iron Arm Portable Sprayer. Based on the stirrup pump, but with an input hose connected to the foot of the pump. Available in 1930.

Bucket Sprayer

Above :- [854] {4} - Bucket sprayer. Galvanised bucket with a height of 14 inches and

Henry Milward & Sons Ltd

a diameter of 12 inches. It has the Iron Arm logo on the bucket. The pump barrel and the output tube are incorporated in the air chamber to form one unit. The inner barrel and output tubes are brass, but the air chamber may be copper. The pump barrel is 14 inches long with a diameter of 1½ inches. The piston rod is hollow brass with a diameter of ⅝ inch. It has an armoured hose, lance and the patent nozzle.



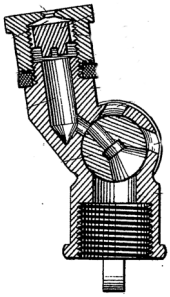
Henry Milward & Sons Ltd

Above :- Drawing of the internal workings of the sprayer. It is based on a force pump with an air chamber. The inlet valve is accessible, but the outlet valve which sits between the barrel and the air chamber is not. Both are controlled by a stud like fitting.

Left :- The input valve at the foot of the pump. A metal plate protects the filter.

Left :- The piston which seems very worn. The patent suggests that it had back-to-back cup washers but with additional support. The piston rod is hollow, but is sealed off so that no liquid can enter.

Left :- The nozzle head is based on patent GB204970A completed 11 October 1923. The nozzle cap is missing. Turning the lever at the top brings 3 different size holes into line either with the spray nozzle or with the side slit, giving the potential for 6 different spray types. The side slit is bevelled to break up the liquid into a spray. Turning the whole head allows the spray to be directed forward or at an angle. The patent is an adaptation of patent GB186735A accepted 12 October 1922. It adds the spray nozzle to nozzle head.



Left :- Diagram of the spray nozzle. This nozzle is used on the bucket sprayer, but was also supplied with the other sprayers. The SPRAY ALL-WAYS slogan refers to this nozzle.

Henry Milward & Sons Ltd

Advertisement 1930

Henry Milward & Sons Ltd

Advertisement 1928 - Copyright Grace's Guide to British Industrial History.

Advertisement 1929- Copyright Grace's Guide to British Industrial History.

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Chapter 31

Monitor Engineering and Oil

Appliances Ltd

Monitor Engineering and Oil Appliances Ltd

Monitor Engineering & Oil Appliances Ltd

Flaxley Road, Stechford, Birmingham 9. The origins of the company are unclear, but early on they were owned by W. Parkinson & Co and later became a member of the Parkinson & Cowan Group. They are well known for pressure appliances, including stoves, blow lamps, brazing lamps, camping equipment, and sprayers. The two pint small pneumatic is the sprayer most frequently seen. In 1956 a newspaper advertisement includes the two pint sprayer model S2B, a one pint sprayer model HD1, and an atomiser the MONIMIST. The company is known to have been operating from about 1937 to the mid 1960s, but after 1958 there are no mentions of sprayers in advertisements or the newspapers.

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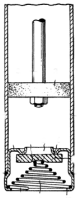
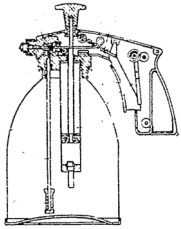
Patents

Monitor Engineering & Oil Appliances Ltd have several patents. Three of these have been applied to sprayers.

GB685552A applied for 25 January 1950 and published 7 January 1953 is for a spraying valve.
GB685553A applied for 25 January 1950 and published 7 January 1953 is for a trigger operated sprayer.
GB728781A applied for 6 January 1953 and granted 27 April 1955 is for a valve used in sprayers and in other apparatus where a container needs to be pressurised.



Left :- Drawing from patent GB728781A showing the piston valve covered by the patent. The valve is a simple coiled spring with a rubber washer. The spring can be removed to access the washer.



Left :- Drawing applicable to patent GB685552A and GB685553A. Implemented in model HD1. However, the patent may have been implemented using the air pump valve described in GB728781A. The actual mechanism implemented differs from that in the drawing.

Monitor Engineering and Oil Appliances Ltd

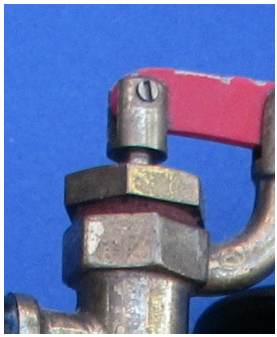
ONE-HAND SPRAYER

This version of the Monitor Sprayer is probably the earliest. It has a wooden pump knob, a plain handle, and no lever control. It is very similar in design to the W T French No. 6 sprayer of 1948. I suspect that the valve used is of the external type.

Monitor Engineering and Oil Appliances Ltd

DE-LUX ONE-HAND SPRAYER

There are different designs of this sprayer. The construction of the spray controls differ, with a major difference in the nut assembly at the top of the outlet valve and other minor differences. There are also differences in the pump barrel, with at least two variations in design and further variations in materials used. Both brass and steel containers are known, and special green painted versions was made for Newton, Chambers Co Ltd for their ZALDECIDE insecticide. The ZALDECIDE version has a steel container with chromium plated parts, and can have either type of lever control.



Left :- The two types of nut used on the control valve of these sprayer. The early type (left) has a gland nut and uses cotton packing. The later version uses a rubber "O" ring.

Above :- Examples of the different filler/barrel end caps. In the left hand two examples the pump barrel passes through the filler cap and is fixed to it. In the left hand example there is a separate barrel end cap fitting inside the top of the barrel. In the middle example there is a separate brass barrel end cap which screws onto the end of the pump barrel. In the right hand example the filler cap acts as the barrel end cap with the piston rod passing through it. The pump barrel screws into the barrel end cap.

Monitor Engineering and Oil Appliances Ltd

Left :- [882] {4} ZALDECIDE version. Container is painted white metal (steel ?). The spray mechanism is chromium plated brass, and has the early type of nut.

Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The barrel end cap on the air pump is made of wood, and would probably have been held in place with two small screws. The piston rod is brass ¼ inch in diameter. The valve is incomplete but was external and probably of the type shown below. The handle on this sprayer is soldered to the container. With later versions the handle is screwed to brass plates soldered onto the container.

The wooden handle and barrel end cap make this an early version of this sprayer, dating after 1935 and before 1953. It is reasonable to assume that brass versions with the MONITOR decal were also made.

Left :- The valve on this sprayer was probably of this type. A spring-loaded piston move under pressure to allow air into the container.

Left :- The top of the barrel and filler cap. The barrel passes through the filler cap and is permanently fixed to it. The barrel end cap is made of wood and held in place by two small brass wood screws. A rubber washer provides the seal between the container and the pump barrel.

Monitor Engineering and Oil Appliances Ltd

Left :- [883] [3} Similar in construction to [882] above. The container is brass. The spray control mechanism is not chromium plated. The barrel end cap and the pump knob are plastic and not wood.

Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The piston rod is brass ¼ inch in diameter.

This sprayer still has the early type of nut. From this and the pump valve the sprayer would date to pre 1953 but later than the [882].

Left :- The valve from this sprayer. Situated at the end of the pump barrel but external. A spring loaded piston move under pressure to allow air into the container.

Left :- The top of the barrel and filler cap. The barrel passes through the filler cap and is permanently fixed to it. The barrel end cap is made of plastic and held in place by two small brass wood screws. A rubber washer provides the seal between the container and the pump barrel.

Left :- The plastic barrel end cap and the leather cup-washer piston.

Monitor Engineering and Oil Appliances Ltd

Above :- [887] {2} Similar in construction to [882]and [883] above, The container is brass. The barrel end cap is brass and screws onto the end of the pump barrel.

Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inches. The piston rod is brass ¼ inch in diameter. The valve is external.

This sprayer still has the early type of nut. From this and the pump valve the sprayer would date to pre 1953, and later than [882]. It does not have "MADE IN ENGLAND" embossed on the lever, but a sprayer of this type embossed in this way is known. There is a plastic cap inserted into the top of the handle. This was probably a standard feature on sprayers with plastic knobs but is often missing.

Monitor Engineering and Oil Appliances Ltd

Left :- The spray control and feeder tube. This is held in place in the container with a hexagonal nut.

Below :- The sprayer control assembly. Left is the complete assembly. Centre to control valve. Right the components of the control valve with spindle removed.

Left :- The main nut with the gland nut removed, showing the packing.

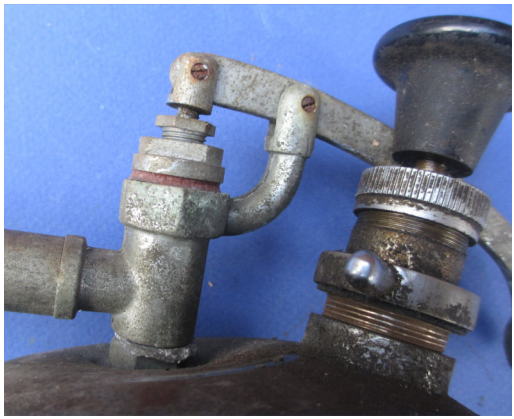
Right :- The pump barrel and the valve component. The valve on this is the early external type. Pressure from the air pump forces the top component against the spring until it reaches the hole in the tube, allowing air into the container.

Monitor Engineering and Oil Appliances Ltd

Above :- [909] {2} Similar in construction to [882 , [883] and [887] above, The container and pump are a white metal alloy which is probably stainless steel. The barrel end cap screws onto the end of the pump barrel.

Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The piston rod is brass ¼ inch in diameter. The valve is external.

This sprayer has the nozzle extension. It has been used as an oiler.



Monitor Engineering and Oil Appliances Ltd

Left :- [270] {2} Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The piston rod is brass ¼ inch in diameter. This sprayer still has the later type of nut (hexagonal) and the pump valve dating after 1953. The lever arm is brass and engraved "Made in England" on one side.

Right :- The components of the spray valve.

Left :- The pump valve which is an implementation of patent GB728781A applied for 6 January 1953. This fits internally within the pump barrel. As a result, it makes the pump assembly shorter. This allows for a change in the way the filler cap and barrel connect to one another.

Left :- The filler cap which is also the barrel end cap. The piston rod passes through it. The barrel screws into the filler cap. The filler cap is seals with a rubber "O" ring.

Left :- The synthetic rubber cup washer piston. Showing the spring on the piston rod.

Right :- A version of this sprayer with a steel container is known.

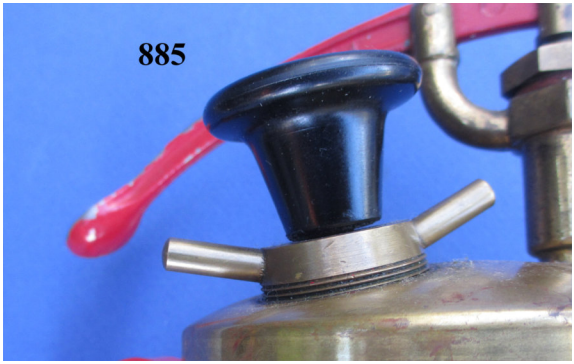
Monitor Engineering and Oil Appliances Ltd

Left :- [885] {3} Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The piston rod is brass ¼ inch in diameter. Monitor decal on the front.

This sprayer still has the later type of nut (hexagonal) and the pump valve dating after 1953.

The lever arm is a white metal, nonmagnetic painted red. Embossed "Made in England" on one side and "Model 4" on the other.

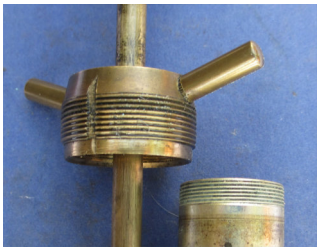
A sprayer of this type, with a similarly embossed arm is known with black paint.



Left :- The filler cap on this sprayer is different to the one on sprayer [270]. It has a slightly tapered shape and is sealed with a rubber 'O' ring.

Monitor Engineering and Oil Appliances Ltd

Left :- The pump valve. The edge of the valve is stamped "PATTAPPLDFOR". It is simple coiled spring operating against a rubber washer.



Left :- The filler cap and the pump barrel. The pump barrel screw into an internal thread in the filler cap. Note the slight change in shape from the earlier models.

Left :- The piston. Showing the synthetic rubber cup washer and the spring.

Monitor Engineering and Oil Appliances Ltd

ONE PINT PNEUMATIC - MODEL HD 1

The HD 1 was being advertised in 1953. The advert says that a 2 pint version will be made available at the earliest possible opportunity. However, the same is said three years later in 1958 so it may never have been made.

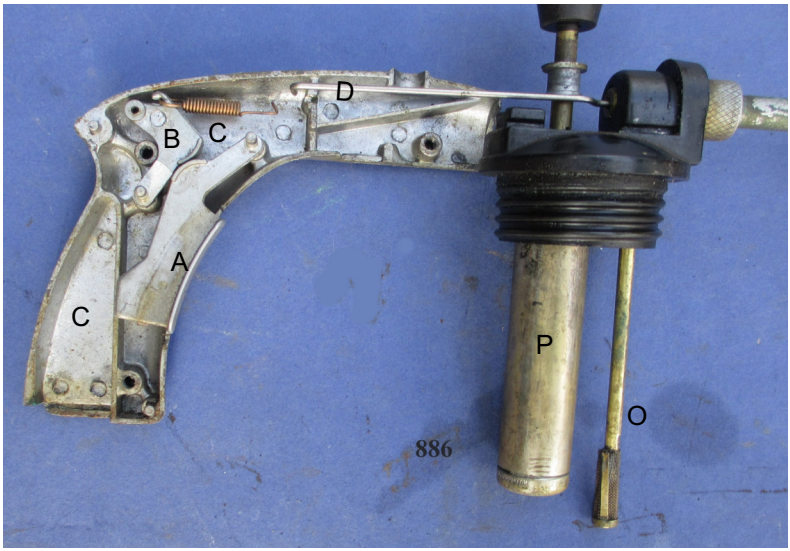
Monitor Engineering and Oil Appliances Ltd

Above :- [886] {4} Monitor Sprayer HD1A. Brass container height 4½ inches high. Diameter 4½ inches at bottom and 2 inches at top. Capacity 1 pint. Pneumatic sprayer implementing all three of the above mentioned patents. The sprayer top is black plastic to which the other components are attached. The air pump barrel is 3½ inches long and ⅞ inch in diameter. This screws into the black plastic top. The handle and housing for the controls is made from white metal in two parts and held together with three screws. It houses the trigger mechanism and sprayer control valve. The handle part is hollow with a removable brass cover. It was advertised as taking an extension pole for high level sprayer. The red button allows the trigger to be held in the on position. This sprayer came with two nozzle cleaners in the handle. These were probably supplied with the sprayer. The short lance and spray nozzle are chromium plated. The piston rod is ¼ inch solid brass with a soft plastic (synthetic rubber) cup washer piston. The piston rob knob is black plastic. Dates 1953 to 1958. An earlier version with a different valve could exist.

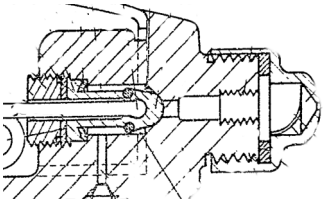
Left :- The end of the handle, showing the brass plate which provides access to the inside of the hollow handle.

Below :- The nozzle cleaners found in the handle.

Monitor Engineering and Oil Appliances Ltd



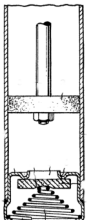
*Above :- The interior of the sprayer. **A** is the trigger. This operates cam **B** which pulls rod **D** opening the spray valve. Spring **C** closes the valve when the trigger is released. Compartment **C** is used to hold accessories and to take an extension pole. **P** is the air pump barrel, and **O** the output tube with filter.*



Left :- Drawing of the spray valve.

Right :- The piston rod and piston.

Below :- The valve, and drawing of valve and piston.

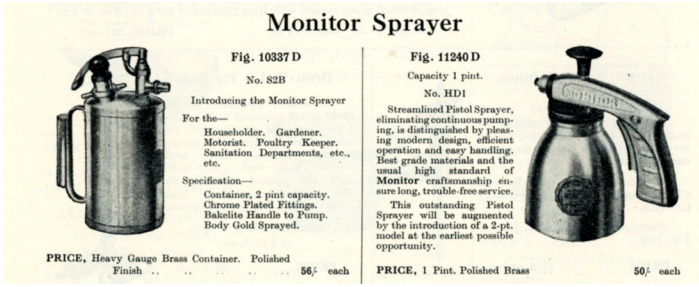


Monitor Engineering and Oil

MONOMIST

Left :- Drawing of the MONOMIST hand sprayer. Known from a 1956 advertisement. Also advertised with the two pneumatic sprayers in the Portadown Times April 12th 1957.

Below :- Buck & Hickman 1958 Catalogue



Monitor Sprayer

Fig. 10337 D

No. S2B

Introducing the Monitor Sprayer

For the—

Householder. Gardener. Motorist. Poultry Keeper. Sanitation Departments, etc., etc.

Specification—

Container, 2 pint capacity. Chrome Plated Fittings. Bakelite Handle to Pump. Body Gold Sprayed.

PRICE, Heavy Gauge Brass Container. Polished Finish .. .. 56/- each

Fig. 11240 D

Capacity 1 pint.

No. HD1

Streamlined Pistol Sprayer, eliminating continuous pumping, is distinguished by pleasing modern design, efficient operation and easy handling. Best grade materials and the usual high standard of **Monitor** craftsmanship ensure long, trouble-free service.

This outstanding Pistol Sprayer will be augmented by the introduction of a 2-pt. model at the earliest possible opportunity.

PRICE, 1 Pint. Polished Brass 50/- each

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Chapter 32

G & W Purser Ltd

G & W Purser Ltd

G & W Purser Ltd

The company is mentioned as syringe makers in Lloyd's List dated 6 August 1880 at Trafalgar Works, Palmer Street, Birmingham 9. George Jesse Purser was born in 1852 and Walter Purser in 1855. The business was the continuation of one involving their father William Purser and their mother Ann Purser. Ann was still involved in the business in 1889. For further information on the earlier business see Appendix A. Alfred John Purser was born in 1860 and was the younger brother of George and Walter. A further brother Henry Edward Purser born in 1863 was also involved in the business, probably in London. His son Arnold Henry Purser born in 1891 appears to be the management representative named in the 1910 and 1911 patents.

From 1894 there are patents which mention G & W Purser. However, G & W Purser Ltd is not mentioned until 1904. In 1913 they were advertising the PEERLESS syringes with an address of 92a Hatton Garden, London EC. The address in 1930 and 1945 advertisements is Nelson House 15 Charles Street, Hatton Garden, London EC1 and also Trafalgar Works, Palmer Street, Birmingham. There is an advertisement in Birmingham Mail on 1 June 1940 for an Order Clerk at the Palmer Street address. In 1944 they became part of Warne, Wright and Rowland Ltd (*Report in Birmingham Evening Post 6 June 1944)*. The managing director at the time John T Quick joined the board of Warne, Wright and Roland Ltd. They continued to operate as a separate company until at least 1958. At the 1950s Industrial fair the address is given as Victor Works, Worcester Road, Bromsgrove, Worcs. For more information see the chapter on W T French.

They made rubber and brass products including rubber tubing, hot water bottles, shower fittings, hose fittings and garden and oil syringe. The Sheffield Weekly Telegraph 22 April 1899 has an illustrated advertisement for the "Vigorator" bath shower attachment. The sprayers they made included syringes and self supplying sprayers. In the early years (1880s) they appear to have made larger mobile sprayers, but the manufacture of these does not seem to have continued.

Brands/Models - FLORAL DEW, G&WP, GWP, JET D'EAU, PEERLESS, PERCY RUBBRAS, RUBBRAS, TELESPRAY, TRAFALGAR, UNO, VICTOR.

G & W Purser Ltd

Patents

Walter Purser, Alfred John Purser and Arnold Henry Purser have a number of patents associated with horticultural items. Also included below are patents by Arthur Henry Gale and Herbert Henry Greaves as these were implemented by G & W Purser.

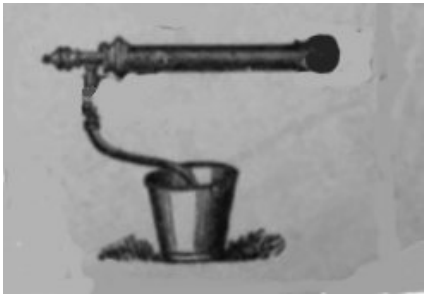
The patents are listed below in date order.

GB189402561A - Applied for 6 Feb1894. Publication 10 November 1894. Alfred John Purser. This is the patent for the widely used drip preventing sleeve.
GB189503816A - Applied for 22 February 1895. Publication 21 December 1895. Alfred John Purser. Method of allowing the piston packing to be compressed without removing piston from the barrel.
GB190204302A - Applied for 20 February 1902. Published 29 January 1903. Walter Purser, Phillip Henry Bailey. Hose connector.
GB190405435A - Applied for 5 March 1904. Published 31 December 1904. Walter Purser. Sprinkler.
GB190414041A - Applied for 21 June 1904. Published 2 March 1905. Arthur Henry Gale. Inbuilt filter for sprayer nozzle.
GB190523689A - Applied for 17 November 1905. Publication 27 September 1906. Alfred John Purser and William Michael Perry. Improvements to hose reels.
GB190922956A - Applied for 8 October 1909. Publication 14 July 1910. Alfred John Purser. Air pump sprayer with the container for the liquid surrounding the pump.
GB190922957A - Applied for 8 October 1909. Publication 10 October 1910. Alfred John Purser. Spraying of disinfectants using air or water pressure.
GB191014969A - Applied for 22 June 1910. Publication 21 June 1911. Alfred John Purser and Alfred Edward White for improvements to the nozzle used by ABOL syringes. The aim being to smooth out the groove in the spray plug.
GB191020175A - Applied for 30 August 1910. Published 3 August 1911. Herbert Henry Greaves. Branching spray head with caps.
GB191023586A - Applied for 12 October 1910. Published 11 May 1911. Arnold Henry Purser. Hose reel.
GB191025717A - Applied for 5 November 1910. Publication 6 November 1911. Arnold Henry Purser. Syringe with the outlet determined by how the syringe is held. Similar in concept to the later RoseNJet of R.Harris.

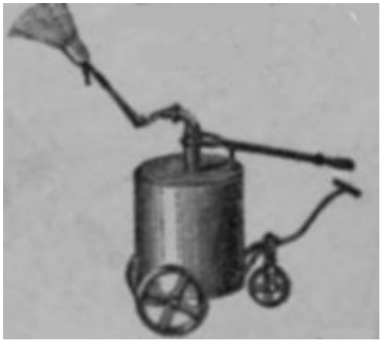
G & W Purser Ltd

GB191026828A - Applied for 18 November 1910. Publication 24 August 1911. Alfred John Purser. The patent for the separate fast-fill valve using a ball valve.
GB191105092A - Applied for 1 March 1911. Published 1 March 1912. Arnold Henry Purser. Spray nozzle using a spray plug.
GB191204664A - Applied for 24 February 1912. Published 13 February 1913. Arnold Henry Purser and G & W Purser Ltd. Hose to tap connector.
GB191324774A - Applied for 31 October 1913. Publication 2 November 1914. Alfred John Purser and G & W Purser Ltd. Spray bottles.
GB191402987A - Applied for 5 February 1914. Publication 5 February1915. A J Purser and G & W Purser Ltd. A method of picking up the liquid in a bucket type sprayer from nearer to the top of the liquid.
GB190333A - Applied for 16 November 1921. Publication 21 December 1922. Alfred John Purser. Forward and angled branches for a syringe with caps etc, allowing the user to choose either forward or angled output.

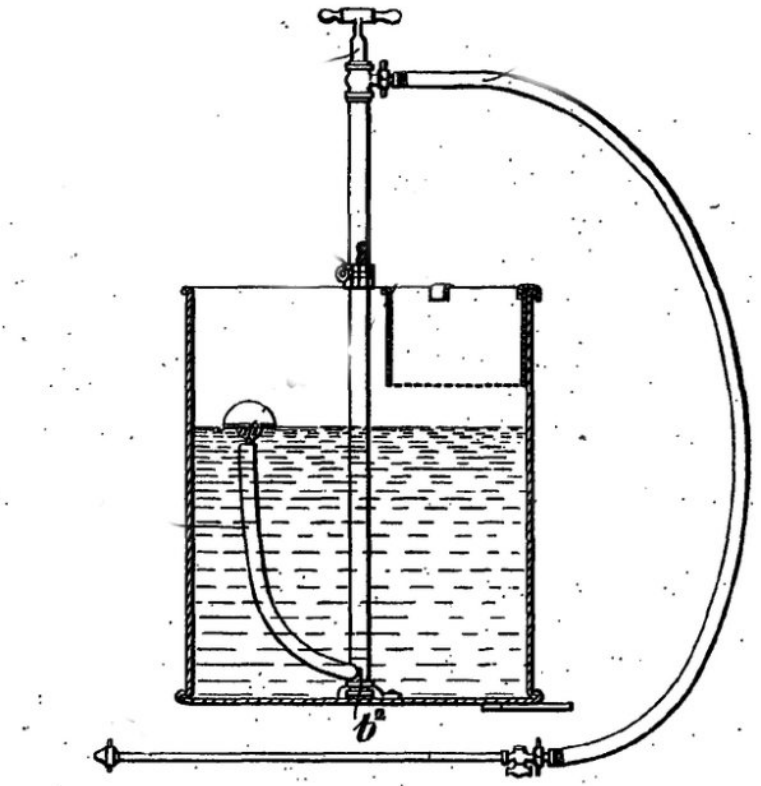
Early Sprayers

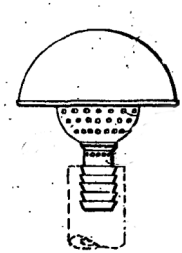


Left :- The JET D'EAU dating from around from 1872. A self supplying sprayer with a hose connection which could be into a hollow piston rod. The design is in some ways similar to the Jeyes Fluid sprayer. Advertised as being able to throw water downwards as well as upwards. In 1873 in won a RHS Gold Medal.



Left :- Purser Garden Engine dating from about 1873. For firefighting and spraying. Probably based on the force pump





Above :- Drawing from patent GB191402987A - Applied for 5 February 1914. Publication 2 May 1915. A J Purser and G & W Purser Ltd. This is for an extra pipe with a float and filter on the end. This means the liquid is sucked in from near the surface of the liquid rather then the bottom of the container.

It also gives some idea of the bucket sprayers being supplied by G & W Purser around this time. Note the 'T' shaped tap-type handle. It appears to be a single action sprayer based on the common pump.

G & W Purser Ltd

Syringes

The following table is a list of the Purser syringes I am aware of. It is unlikely to be a complete list. The model is as used in advertising. From the way they are described in the advertising, I believe the syringes described as 'With Patent Ball Valve' refers to syringes with the GB191026828A patent valve applied for in 1910. This has the ball valve built into the end of the barrel and used by any attached nozzle. Some Purser syringes used nozzle fitted with their own fast-fill valve. The date is the first date I can be sure of.

Model	First Date	Nozzles	Drip P.	Size	Price	Examples
		Rose + Jet with FF Valve	Short	1¼ x16		[383]
		Rose + Jet with FF Valve	Short	1 x12		[585]
	1904	Gale Rose + Jet	N	1½ x18		[154]
ARNOLD	1917	Arnold + Rose	Y	1x14	8/6 (1917)	
ARNOLD	1917	Arnold + Rose	Y	1x20	10/6 (1917)	
NIQUAS ARNOLD		Arnold + Rose	Y	1x20		[92]
ARNOLD	1917	Arnold + Rose	Y	1¼ x 20	14/0 (1917)	
ARNOLD	1917	Arnold + Rose	N	1 x14	7/6 (1917)	
ARNOLD	1917	Arnold + Rose	N	1x20	9/0 (1917)	
ARNOLD	1917	Arnold + Rose	N	1¼ x20	12/0 (1917)	[427]
ARNOLD		Arnold (6 caps) + Rose	Y	1x14		[443]
ORDINARY	1917	Rose + Jet	Y	1x12	4/6 (1917)	
ORDINARY	1917	Rose + Jet	Y	1x16	5/9 (1917)	
ORDINARY	1917	Rose + Jet	Y	1¼ x16	7/9 (1917)	[649], [107], [159]
ORDINARY	1917	Rose + Jet	Y	1¼ x18	10/0(1917)	
ORDINARY	1917	Rose (Fine & Coarse) + Jet	Y	1x12	5/9(1917)	
ORDINARY	1917	Rose (Fine & Coarse) + Jet	Y	1x16	7/0(1917)	
ORDINARY	1917	Rose (Fine & Coarse) + Jet	Y	1x20	8/3(1917)	
ORDINARY	1917	Rose (Fine & Coarse) + Jet	Y	1¼ x16	9/0(1917)	
ORDINARY	1917	Rose (Fine & Coarse) + Jet	Y	1¼ x18	11/9(1917)	

G & W Purser Ltd

Model	First Date	Nozzles	Drip P.	Size	Price	Examples
WITH BALL VALVE	1917	Rose (Fine & Coarse)	Y	1½ x 18	17/0(1917)	
WITH BALL VALVE	1917	Rose (Fine & Coarse)	Y	1¾ x20	20/6(1917)	
WITH BALL VALVE	1917	Jet	Y	1½ x18	12/6(1917)	
WITH BALL VALVE	1917	Jet	Y	1¾ x20	15/6(1917)	
		Rose + Jet	N	1¾ x18		[350]
Peerless		Rose + Jet	N	1x20		[279]
Peerless		Rose (Fine & Coarse) +Jet	Y	1½ x20		[359]
Peerless		Spray x 2	Y	1x20		[521],[603]
Peerless		Spray x 2 +Rose +Jet	Y	1x20		[363],[410],[823]
Peerless		Spray +Rose	N	1 x14		[155]
Peerless 3 Spray	1951	Spray x2 +jet	Y	1 x14		
Peerless 3 Spray	1951	Spray x2 +jet	Y	1 x20		
Peerless 3 Spray	1951	Spray x2 +jet	Y	1⅛ x20		
Peerless POTATO SPRAYER		Spray	N	1⅛ x20		[377]
Floral Dew		Rose (Medium & Coarse) +Jet	N	1⅛ x18		[770]
Floral Dew		Rose	N	1x16		[598]
Floral Dew		Rose + Spray	N	1x16		[158]
Floral Dew		Spray	Y	1x16		[486]
Rubbras		Spray	Y	1x16		[322]
Rubbras		Rose + Jet	N	1x16		[384]
Rubbras		Spray	Y	⅞x16		[112]
Percy Rubbras		Spray	N	⅞x16		[132]
Victor	1954	Spray	Y			
Trafalgar	1951	Spray	N	⅞x16		

G & W Purser Ltd

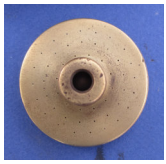
Examples of the syringes produced by G & W Purser are shown below. I have attempted to put them in roughly date order based on the construction and on the features they incorporate.

Above :- [350] {3} This syringe has none of the features covered by Purser patents. It has a rose nozzle with a central fast-fill valve controlled by a washer. This is an approach used in early syringes. Barrel length 18 inches and diameter 1¾ inches. The plate reads "BEST QUALITY G W PURSER LTD MANUFACTURER". There is a missing nozzle which was probably a jet. Piston rod is hollow brass with a diameter of ½ inch. It is fitted with a ½ inch cotton reel type piston.

Left :- The plate.

Right :- The rose nozzle with a central fast-fill controlled by a washer which moves to allow liquid through the central holes on the pull stroke and to block them on the push stroke.

Above :- [935] {4} Similar to [350] above. However, the two rose nozzles have central fast-fill valves controlled by a ball which probably makes it later in date. Barrel length 18 inches and diameter 1¾ inches. The plate reads "BEST QUALITY G W PURSER LTD MANUFACTURER". Holders on barrel for nozzles not in use. One missing holder and nozzle which was probably a jet. Piston rod is hollow brass with a diameter of ½ inch. It is fitted with a ½ inch cotton reel type piston. This sprayer has been heavily cleaned and restored.



G & W Purser Ltd

Above :- [383] {4} An early implementation of patent GB189402561A for the drip preventing sleeve. Applied for 2 June 1894. It has a metal manufacturer's plate mentioning the patent. The crest indicates that Purser had royal warrant. Note that the drip preventer starts part way done the barrel with a tube running from the air vent into the preventer. This is the way it is presented in the patent. Barrel length 16 inches with a diameter of 1¼ inches. Drip preventing sleeve 4 inches long with a pipe from the air vent. Stuffing box. Piston rod is hollow brass $^{7}/_{16}$ inch in diameter. It is fitted with a ½ inch cotton reel type piston. Supplied with a rose and a jet nozzle. This syringe probably dates from late 1890s to early 1900s.

Above :- [585] {4} Similar [383] above, but smaller. Barrel length 12 inches with a diameter of 1 inch. Drip preventing sleeve 4 inches long with a pipe from the air vent. Stuffing box. Piston rod is hollow brass $^{7}/_{16}$ inch in diameter. It is fitted with a ½ inch cotton reel type piston. Supplied with a rose nozzle but missing another nozzle which was probably a jet. This syringe probably dates from late 1890s to early 1900s.

Above :- [649] {3} Brass syringe with a barrel length of 16 inches and diameter of 1¼ inches. The manufacturer's plate mentions the drip preventer patent. Purser's full length drip preventing sleeve 6 inches long. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ inch long. Rose and jet Nozzles.

G & W Purser Ltd

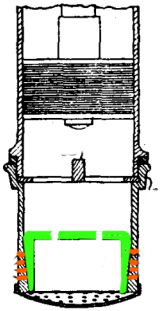
Above :- [107] {3} Brass syringe with a barrel length of 16 inches and diameter of 1¼ inches. The manufacturer's plate mentions the drip preventer patent. Purser's full length drip preventing sleeve 6 inches long. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ inch long. Rose and jet Nozzles.

Above :- [159] {3} Brass syringe with a barrel length of 16 inches and diameter of 1¼ inches. Manufacturer's plate reading "PURSER'S ORIGINAL DRIP PREVENTER". It does not have the Royal Warrant. Purser's full length drip preventing sleeve 6 inches long. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ inch long. Rose and jet Nozzles. Handle is not original. This syringe is probably later than the previous two syringes.

Above :- [154] {4} This sprayer implements patent GB190414041A for the Gale's grit proof inlet valve. This was applied for on 21 June 1904. The manufacturer's plate mentions the Gale's patent and the grit proof nature of the syringe. The brass barrel is 18 inches long with a diameter of 1½ inches. It has a hollow brass piston rod ½ inch in diameter. and is fitted with a ½ inch cotton reel type piston. In addition to the Gale's patent nozzles the syringe has a jet nozzle. The Gales nozzle on the syringe pictured is missing the rose cap. The syringe will date after 1904 but before 1910 when the ball valve fast-fill valves were in use. The ball valves are less likely to be affected by grit.

G & W Purser Ltd

Below :- Drawing of the Gale's patent nozzle. On the pull stroke when filling the syringe, the valve (in green) moves upwards allowing liquid to be sucked in through a number of small holes around the barrel end (marked in red on the drawing). On the push stroke the valve moves downwards blocking the holes in the sides and only allowing liquid to be pass through the rose plate.



Above :- The interior of the nozzles. Centre the valve (shown in green in the diagram). This is free to move within the housing (left). The screw ring (right) holds it in place.

Left :- The nozzle casing showing the holes through which liquid is sucked when filling the syringe, but which are blocked while spraying. A rose cap would have fitted on this.

G & W Purser Ltd

Above :- [444] {3} ARNOLD. This sprayer implements patent GB191025717A applied for 5 November 1910. This is for a spray nozzle which can turn from spraying ahead to an angle by turning the syringe. The sprayer is called THE ARNOLD which suggests it was invented by Arnold Henry Purser. He is the person named on the patent application. The brass barrel of the syringe is 14 inches long with a diameter of 1 inch. It has Purser type drip preventer which is 6 inches long. By this time the drip preventer which started part way down the barrel seems to have been replaced by this version which started at the barrel end cap. The piston rod is hollow brass with a diameter of $^{7}/_{16}$ of an inch. It has a ½ inch cotton reel piston. The syringe was provided with 6 spray nozzles. Two fine, two medium and two coarse. In addition, it had a rose nozzle. All the nozzles not in use have holder on the drip preventing sleeve.

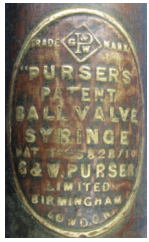
Above :- The left picture is the ARNOLD nozzle. Front is the fast-fill valve. Back and left are the two spray outlets. The centre picture shows the mechanism which controls which of the outlets is in use. The ball moves as the syringe is turned to block one of the outlets. The right picture shows the additional nozzles on their holders. The concept would be to have two of the same size spray nozzles on the head at the same time so that turning the syringe sprayed either forward or at an angle with the same spray. However, multiple combinations are possible. The spray nozzles are an implementation of patent GB191105092A applied for 1 March 1911 which implements a goblet shaped spray plug. Sprayer [153] in my collection is the same, but missing some of the nozzles.

Above :- [427] {3} ARNOLD syringe. Fitted with the patent nozzle as described above. Brass barrel length 20 inches with a diameter of 1¼ inches. Purser type drip preventing sleeve 8½ long. Missing an additional nozzle cap which was probably a rose. Brass piston rod ⅜ inch diameter. Fitted with a ½ cotton reel type piston. The nozzle is missing some of the caps. Known to have been available from W H Willcox & Co in 1917 in this size and also in 1 x 14 inches and 1 x 20 inches.

G & W Purser Ltd

Above :- [92] {3} The NIQUAS insecticide syringe made for Corry & Co, London. Manufacturer's plate (left) mentioning the syringe is made to the ARNOLD patent. Brass syringe 20 inches long and 1 inch in diameter. Full size Purser drip preventing sleeve 9 inches long. Piston rod is ⅜ inch hollow brass. The Piston is of the cotton reel type.

As an ARNOLD syringe this would have originally had the patent nozzle, but this is missing and only the rose remains.



Above :- [864] [5] Brass syringe. Manufacturer's plate reading "TRADE MARK G & W PURSERS PATENT BALL VALVE SYRINGE PAT. No. 26828/10 G & W.PURSER LIMITED BIRMINGHAM & LONDON". Brass barrel length 20 inches with a diameter of 1 $^{11}/_{16}$ inches. Hollow brass piston rod ½ inch in diameter. Cotton reel type piston ¾ inch in length. The collar at the front of the barrel incorporates a fast-fill valve controlled by a ball as in patent GB191026828A 24 August 1911. The ball is fixed in place in a short tube coming from the front collar. The sprayer has a stuffing box.

Above :- [279] {3} Brass syringe THE PEERLESS. Manufacturer's plate at front of barrel by nozzles. Brass barrel length 20 inches with a diameter of 1 inch. Gold lacquer finish. Hollow brass piston rod $^{7}/_{16}$ in diameter. Cotton reel type piston ½ long. The nozzle is an implementation of patent GB191020175A applied for 30 August 1910 and published 3 August 1911. The sprayer has two nozzle branches. One points ahead and the other at an angle. A blank cap is provided which can be used in conjunction with the rose or jet cap provided to allow the sprayer to be set up to spray ahead or at an angle with either of these.

G & W Purser Ltd

Above [359] {3} Brass syringe. Manufacturer's plate on front of barrel which reads PURSER DEW-ROSE PEERLESS PATENT 30536. However, I cannot trace the patent. It has the swappable caps as described in patent GB191020175. Provided with a jet and two rose nozzles but missing the blanking cap. Barrel length 20 inches with a diameter of 1¼ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ inch long.

Above :- [521] {2} Brass syringe THE PEERLESS THREE SPRAY. Manufacturer's plate on drip preventing sleeve and information on the nozzle. Purser type drip preventer sleeve 6 inches long. Brass barrel length 20 inches with a diameter of 1 inch. Hollow brass piston rod $^{7}/_{16}$ in diameter. Cotton reel type piston ½ inch long. Nozzle is an implementation of patent GB191020175 applied for 30 August 1910 and published 3 August 1911. The sprayer has two nozzle branches. One points ahead and the other at an angle. A fast-fill valve controlled by a ball cap is provided which can be used in conjunction with the rose or jet cap provided to allow the sprayer to be set up to spray ahead or at an angle with either of these. Two different spray nozzles are provided with different size apertures. They are both fitted with nozzles having the patent spray plug. The name PEERLESS appears to come from the meaning of the word "unequalled" or "unrivalled".

The spray nozzles are an implementation of patent GB191105092A applied for 1 March 1911 which implements a goblet shaped spray plug.

G & W Purser Ltd

Above :- [603] Brass syringe THE PEERLESS THREE SPRAY. Manufacturer's plate on drip preventing sleeve and information on the nozzle. Purser type drip preventer sleeve 6 inches long. Brass barrel length 20 inches with a diameter of 1 inch. Hollow brass piston rod $^{7}/_{16}$ in diameter. Cotton reel type piston ½ inch long. Missing the handle but otherwise the same as [521]. Two spray nozzles and jet.

Above :- [465] {3} Brass syringe THE PEERLESS THREE SPRAY. Manufacturer's plate on drip preventing sleeve and information on the nozzle. Purser type drip preventer sleeve 6 inches long. Brass barrel length 20 inches with a diameter of 1 inch. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ inch long. Nozzle is an implementation of patent GB191020175 applied for 30 August 1910 and published 3 August 1911. The sprayer has two nozzle branches. One points ahead and the other at an angle. A fast-fill valve controlled by a ball cap is provided. which can be used on either branch. This sprayer is shown fitted with a rose nozzle. There is a missing holder on the barrel which was probably for two spray nozzles.

Above :- [823] {3} Brass syringe THE PEERLESS THREE SPRAY. Manufacturer's plate on drip preventing sleeve and information on the nozzle. Purser type drip preventer sleeve 6 inches long. Brass barrel length 20 inches with a diameter of 1 inch. Remains of gold lacquer finish. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Back-to-back leather cup washer pistons. Works in the same way as the others described above. Two spray nozzles.

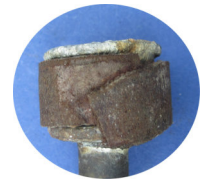
Above :- [410] {3} Brass syringe THE PEERLESS THREE SPRAY. Manufacturer's plate on drip preventing sleeve and information on the nozzle. Purser type drip preventer sleeve 6 inches long. Brass barrel length 20 inches with a diameter of 1 inch. Remains of gold lacquer finish. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Back-to-back leather cup washer pistons. Works in the same way as the others described above. This one is missing one nozzle and one of the holders. Rose nozzle and one spray nozzle.

G & W Purser Ltd

Above :- [363] {3} Brass syringe THE PEERLESS THREE SPRAY. Manufacturer's plate on drip preventing sleeve and information on the nozzle. Purser type drip preventer sleeve 7½ inches long. Brass barrel length 20 inches with a diameter of 1 inch. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Back-to-back leather cup washer pistons. Missing a holder and a spray nozzle. Works in the same way as the others described above.

Above :- [155] There is no manufacturer's plate, but the details are on the nozzle head. It reads ONE SPRAY PURSER PATENT. This is an implementation patent GB191020175A, but instead of the blanking cap there is a fast-fill valve controlled by a ball. This can be swapped to be on the forward facing branch or the angled branch. The spray nozzle has the goblet shaped spray plug as detailed in patent GB191105092A. Brass barrel 14 inches in length and 1 inch in diameter. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston.

Left :- The spray head with two branches. In this picture the fast-fill valve is pointing upwards. It looks similar to a spray nozzle, but is a valve controlled by a ball (see right).



Above :- [377] {4} There is no manufacturer's plate, but the details are on the nozzle head. It reads POTATO SPRAYER. This is an implementation patent GB191020175A, but instead of the blanking cap there is a fast-fill valve controlled by a ball. This can be swapped to be on the forward facing branch or the angled branch. The spray nozzle has the goblet shaped spray plug as detailed in patent GB191105092A. Copper barrel 20 inches in length and 1⅛ inches in diameter. Hollow brass piston rod ⅜ inch in diameter. Cotton reel type piston but it has a special leather band rather than cotton packing.

G & W Purser Ltd

Above :- [770] {3} Brass syringe sprayer. Manufacturer's PURSER'S FLORAL DEW SPRAYER plate. Remains of gold lacquer. Barrel length 18 inches with a diameter of 1½ inches. Medium and coarse rose nozzles and a jet nozzle. Solid brass piston $^{5}/_{16}$ inch in diameter. Cotton reel type piston ¾ inch in length.

Above :- [598] {3} Brass syringe sprayer. Manufacturer's PURSER'S FLORAL DEW SPRAYER plate. Barrel length 16 inches with a diameter of 1 inch. Removable rose nozzles. Hollow brass piston ⅜ inch in diameter. Cotton reel type piston ½ inch. Handle is not original.

Above :- [158] {3} Brass syringe sprayer. Manufacturer's FLORAL DEW plate. Barrel length 16 inches with a diameter of 1 inch. Spray nozzle with separate fast-fill valve controlled by a ball. Rose nozzle. Hollow brass piston rod ⅜ inch in diameter with leather back-to-back cup washer piston. Bend.

Above :- [486] {3} Brass syringe sprayer. Similar to FLORAL DEW SPRAY in 1951 advertisement. Manufacturer's FLORAL DEW plate. Barrel length 16 inches with a diameter of 1 inch. Spray nozzle with separate fast-fill valve controlled by a ball. Rose nozzle. Hollow brass piston rod ⅜ inch in diameter with leather back-to-back cup washer piston. Bend.

Above :- [322] {3} Brass syringe sprayer with remains of gold finish. Remains of decal which reads A RUBBRAS PRODUCT PURSER LTD LONDON. Barrel length 16 inches with a diameter 1 inch. Purser type drip preventer length 6 inches. Spray nozzle with a separate fast-fill valve controlled by a ball. Hollow brass piston rod ⅞ inch in diameter. Fitted with a ½ cotton reel piston.

G & W Purser Ltd

Above :- [384] {2} Brass syringe sprayer with remains of gold finish. Remains of decal reading RUBBRAS. Barrel length 16 inches with a diameter of 1 inch. Rose nozzle with a missing holder and nozzle on the barrel.

Above :- [112] {4} Brass syringe sprayer. Similar to the VICTOR adjustable syringe in the 1945 advertisements. Plate with RUBBRAS. Barrel length 16 inches with a diameter of ⅞ inch. Adjustable spray nozzle with separate fast-fill valve controlled by a ball held in with a spring clip. Hollow brass piston rod ⅜ inch in diameter with leather back-to-back cup washer piston. The drip preventing sleeve was bound with a gold string which has been replaced with cotton string.

*Above :- [132] {2} Brass syringe sprayer with gold lacquer. PERCY RUBBRAS decal. Barrel length 16 inches with a diameter ⅞ inch. Fixed spray nozzle with an integrated fast-fill valve. Solid brass piston rod ¼ inch in diameter. Spring on piston rod. Back-to-back cup washer piston. RUBBRAS is a blend of **RUB**ber and **BRAS**s.*

Left :- The decal touched up and the decal in its original state.

G & W Purser Ltd

Left :- The UNO self supplying sprayer. This appears a standard double action sprayer of the "SOLO" type. It does not appear to have an air chamber. Advertised in 1945 and 1951.

Left :- The TELESPRAY. Advertised in 1951. This is a rear supply self supplying sprayer. From the advertisement it seems that the lance can be pushed back into the barrel. How this works is unclear but it is probably based on the same principal as the UNO with the extension being the hollow piston rod with the piston and valve being on the end which remains in the barrel.

Below :- Jet d'Eau advertisement 1873. It was still being advertised in 1881.

SYRINGES and GARDEN ENGINES.

The "Jet d'Eau," a new Self-supplying Hand Garden Engine and Syringe.

Easiest to Work, Lightest and Greatest in Power of all others of this kind. Prize Medal awarded at Great Show in Birmingham, June, 1872.

Prices, carriage free, No. 1, 13s.; No. 2, 15s. 6d.; No. 3, 18s. each, in box complete.

G. AND W. PURSER, Warwick Street, Birmingham, Manufacturers of every description of Garden Engines and Syringes.

Engravings and Price Lists on application.

SEASON, 1873.

No Advance in Prices

G & W Purser Ltd

Appendix A

Jesse Ball and Ann Purser *- Forerunner of the G & W Purser business.*

NOTICE is hereby given, that the Partnership hitherto subsisting between the undersigned, Jesse Ball and Ann Purser, Widow, in the business of India Rubber Manufacturers and Waterproofers, and carried on by them at No. 13, New-street, Birmingham, under the firm of Ball and Purser, is dissolved, by mutual consent, as from and after the 31st day of December, 1877.
All debts due and owing to and from the said late copartnership will be received and paid by the said Ann Purser, by whom the said business will, after the said 31st day of December, 1877, be carried on, under the firm of G. and W. Purser, at the works of that firm, called the "Trafalgar Works," situate in Palmer-street, Birmingham.
—As witness the hands of the said parties the 28th day of December, 1877.
Jesse Ball.
Ann Purser.

Notes - William Purser (born about 1825) had died in 1869. It would seem that his widow, Ann Purser remained part of the business at least until 1899. A notice in the London Gazette of 1889 refers to George Jesse Purser and Ann Purser trading as G. and W. Purser. It is unclear whether or not Jesse Ball was a partner of William Purser or whether Ann entered into a partnership with him on the death of Williams.

Birmingham Morning News - 24 April 1874 (Also 1873 and 1875**)**

INDIA−RUBBER WATERPROOFERS.
BALL and PURSER, 16, Carr's Lane (corner of High Street).—Waterproof COATS, CAPES, LEGGINGS, OVERSHOES, &c., &c.—India−Rubber and Gutta Percha Goods, of every description.

Birmingham Mail - 1 March 1875

WHEN IT RAINS, WEAR
BALL AND PURSER'S
WATERPROOF CLOTHING.
INDIA−RUBBER WATERPROOF COATS
OF EVERY DESCRIPTION.
LEATHER LEGGINGS, ALL KINDS.
LADIES' AND GENTLEMEN'S OVERSHOES, &c.,
WATERPROOF GIG APRONS, HORSE LOIN COVERS, &c., &c.
THE INDIA−RUBBER DEPOT,
13, NEW STREET,
OPPOSITE HEN AND CHICKENS HOTEL.

G & W Purser Ltd

Appendix B

1917 Advertisement from W H Willcox Catalogue. Although this is for the ARNOL, I am sure that this is the Purser syringe with the patent nozzle.

THE ARNOL SYRINGE
(PATENTED)
SELF ACTING

DIRECTION ALTERED BY A TURN OF THE SYRINCE.

Finest Finish. Polished and Lacquered. Very fine Spray, with Patent Drip Preventer.

No unscrewing to fix a bend. Automatically changes from horizontal to upward jet. Rose also supplied.

Sizes, ...	1 × 14	1 × 20	1¼ × 20 ins
With Patent Drip Preventer,	8/6	10/6	14/ each.
Without Drip Preventer, ...	7/6	9/	12/ ,,

Also "PEERLESS" PATENT SYRINGES.
Direction of spray altered by transferring a cap.—On application.

ORDINARY STYLE SYRINGES

Best quality, with Patent Drip Preventer.

Sizes, ...	1×12	1×16	1×20	1¼×16	1¼×18	ins.
Plain Ends, with one Rose and Jet, ...	4/6	5/9	7/	7/9	10/	each.
Ditto, with two Roses, fine and coarse, and Jet, ...	5/9	7/	8/3	9/	11/9	,,

DITTO, WITH PATENT BALL VALVE

Sizes, ...	1½ × 18	1¾ × 20 ins.
With two Roses and Jet, ...	17/	20/6 each.
With Jet only, ...	12/6	15/6 ,,

G & W Purser Ltd

Appendix C

1930 Advertisement

G & W Purser Ltd

Appendix D

1945 Advertisement. Copyright Grace's Guide to British Industrial History.

G & W Purser Ltd

Appendix E

1951 Advertisement. Copyright Grace's Guide to British Industrial History.

G & W Purser Ltd

Appendix F

1955 Bulletin.

A PURSER BULLETIN

G. & W. PURSER LTD
15, GRENVILLE STREET,
LONDON, E.C.1.

HOL: 5638/9

Our very first Bulletin introduces our new Spring Price List. Brass prices are up owing to the increased cost of raw material. Should prices drop our Bulletin will give you the information so that you will benefit at once. So far the rubber prices remain the same and we shall do our best to maintain these as long as possible.

PRICE REDUCTIONS

We have good news too! - The prices for certain items in our General Price List No. 2 have been reduced.

5/16" i.d. galvanised gas tubing in 60' coils from 20/- a coil to 18/2d.

No. 3 Red Rubber Tubing 5/16" i.d. x 1/16" wall from 2½d per ft. to 2d.

3/8" i.d. x 1/16" wall from 3d. per ft. to 2¾d.

You will receive a PURSER BULLETIN every month giving you the latest information on PURSER PRODUCTS.

G & W Purser Ltd

Appendix G

1955 Price List Amendment

G. & W. PURSER LTD.

AMENDMENT TO 1955 SPRING PRICE LIST

LONG LENGTH GARDEN HOSE

Since the 1955 Spring Price List was printed we regret to inform you that owing to the increase in raw rubber and wage awards the price of Long Length Garden Hose has had to be increased. The new prices are as follows:-

Size	½"	⅝"	¾"	1"	
"British Oak" 2 braid	11d.	1/0½d.	1/2¼d.	2/1d	per ft.
"Blackwata" 2 braid	10½d.	1/-	1/1¾d.	-	"
"Blackwata" and "Redriva" 1 braid	8¼d.	10d.	11¾d.	-	"

These prices will apply to all Orders received after the 15th March, 1955.

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Chapter 33

Robinson Brothers Ltd

Robinson Brothers Ltd

Robinson Brothers Ltd

Ryder's Green Works, West Bromwich
now **Phoenix Street, West Bromwich**

Operating from 1869 to date. The company was established by William Leckie Robinson (1829 to 1901), James Henry Robinson (1831 to 1875) and Charles R Robinson (1833 to 1899) for the distillation of coal tar. Incorporated in 1924. In 1909 they opened an Insecticide Department later to be known as the Horticultural Department. There are advertisements in various newspapers around 1909 for CLIFT insecticide, in 1928 for VELAS lawn treatment and in 1932 for KILLSECT insecticide. In 1911 there is a mention of a syringe which can be turned from a rose to a jet by a half turn. The actual patent for this is GB191011965A dated 16 March 1911 by William Spears who I assume was a foreman at Robinson Brothers. There are mentions in books dating 1924 for Robinson syringes, but I am unable to find any mention of the garden products later than 1932. However, in 2022 the company was still in business as manufacturers of organic chemicals.

Charles Burt Robinson the son of James Henry Robinson has a patent with Robinson Brothers Ltd for the improvement of watering can roses - GB206721A applied for 6 December 1922.

Trading name - RBS Ltd. **Models** - MUTIPLE, ONE SPRAY, PINE SPRAY

Syringes

Above :- [367] {4} Robinson Brothers MULTIPLE sprayer Type AA 181. Brass barrel length 18 inches and diameter 1 inch. Manufacturer's plate. Signs of gold lacquer finish. Purser type drip protecting sleeve 6½ inches long. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Piston is leather back-to-back cup washers. Spray, rose and jet nozzles with holder on drip preventer for nozzle not in use. Spray nozzle has a separate fast-fill valve controlled by a ball held in with a fixed pin.

Robinson Brothers Ltd

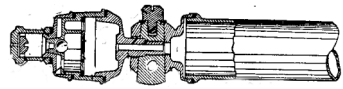
Above :- [443] {4} Robinson Brothers MULTIPLE sprayer Type AA 181. Brass barrel length 18 inches and diameter 1 inch. Manufacturer's plate. Purser type drip protecting sleeve 8 inches long. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Piston is leather back-to-back cup washers. Spray, rose and jet nozzles with holder on drip preventer for nozzle not in use. Spray nozzle has a separate fast-fill valve controlled by a ball held in with a pin. Similar to [367] above, but with a longer drip preventing sleeve and a different design of nozzle.

Above :- [830] {4} Robinson Brothers MULTIPLE sprayer Type AB 201. Brass barrel length 20 inches and diameter 1 inch. Manufacturer's plate. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Piston is leather back-to-back cup washers. Spray and rose nozzles with missing nozzle. Holders (one missing) on barrel for nozzle not in use. Spray nozzle has a separate fast-fill valve controlled by a ball held in with a pin.

Left :- [830] The spray nozzle with the cap removed showing the spray plug.

Right :- [830] The inside of the nozzle.

Above :- [360] {4} PINE SPRAY SYRINGE. Manufacturer's plate on drip preventing sleeve. There is a mention of patent 2315 but the patent for the nozzle is GB191011965A dated 16 March 1911. Brass barrel length 16 inches and diameter 1¼ inches. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Piston is back-to-back leather cup washers. Handle is missing. The nozzle sprays as a rose or a jet depending on which way it is held. This is controlled by a ball which blocks one of the two holes allowing liquid to flow either through the jet outlet through the rose outlet. The nozzle is also able to swivel.



Robinson Brothers Ltd

Left :- [360] The nozzle components. The flow is controlled by a ball which blocks one of the two holes (see left) allowing liquid to flow either through the centre (jet) or into the outer section (rose)

Left :- [360] The nozzle components. The ball is in the bottom left component behind the filter.

Above :- [834] Damaged plate which probably reads "THE DEMON SPRAY SYRINGE". Although the actual manufacturer is not mentioned the filter and the general construction suggest that it is a Robinson Brothers syringe. Barrel length 16 inches and diameter 1¼ inches. Collar on both ends of the barrel. Spray head with a fast-fill valve in the head. This is controlled by a ball which is held in using a component which includes a filter. Rose nozzle. Holders for nozzles and cap not in use on the barrel. It has a hollow brass piston rod $^{5}/_{16}$ inch in diameter. Adjustable piston which uses several washers. A newspaper article in August 1920 mentions a Demon Spray Syringe being given as a prize by Boundary Chemical Co Liverpool.

Left :- [834] The inside of the spray head showing the ball valve and the filter which holds the ball in place.

Right :- The piston.

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Chapter 34

C T Skelton & Co Ltd

C T Skelton & Co Ltd

C T Skelton & Co Ltd.

The company was founded in1885 at Sheafbank Works, Sheffield. In 1902 it became a private limited company. There are various reports in newspapers from 1913 to 1938. In 1913 an employee was killed by being pulled into the cogs of a machine. In 1933 there was a major fire in the Prospect Road premises. In 1938 an employee was injured.

In 1962 the company merged with Nash Tysack Industries to form Brades, Skelton and Tyzack which in 1967 became part of Spearwell Tools. The company was a manufacturer of tools of all kinds but mainly gardening tools. Sprayers attributable to the company seem fairly rare and those that are found appear to be early in date. They are straightforward syringes with standard jet and/or rose nozzles with cotton reel type pistons. This suggests that sprayers were only part of the business for a short time, probably pre WW II.

Above :- [389] {4} Brass syringe sprayer with manufacturer's plate. Barrel length 16 inches and diameter 1⅜ inches. Removable rose. Hollow brass piston rod ⅜ inch in diameter. Cotton reel type piston ½ inch long.

Above :- [484] {4} Brass syringe sprayer with manufacturer's plate. Barrel length 18 inches and diameter 1⅝ inches. Rose and jet nozzle. Hollow brass piston rod ⅝ inch in diameter. Cotton reel type piston 1¼ inches long. Handle is not original.

C T Skelton & Co Ltd

Advertisement 1893. Copyright Grace's Guide to British Industrial History.

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Chapter 35

Smith & Davis Ltd

Smith & Davis Ltd

Smith & Davis Ltd.

The company was founded in 1901. In 1902 they appear in Kelly's Directory at Beacon Works, Essington Street, Birmingham. By 1909 they were at Beacon Works, Hampton Street, Birmingham. They remained in Hampton Street until 1940 when they moved to 26 Hospital Street. In 1945 Mr F L Davis was one of the directors and was elected President of the Brassfounders Association. Around 1952 they moved to Beacon Works, Friar Park Road, Wednesbury, Staffs. In 1955 they also had a London Export Office 61/62 Broad Street Avenue, Blomfield Street, London EC2. The company were essentially a brass hardware manufacturer who included some spraying machines in their range of products. In 1955 their trade catalogue shows they made window fittings, carpet fittings, picture fittings, cabinet fittings, curtain fittings, screws, horticultural wares, builders fittings and plumbers fittings. Horticultural wares including syringes, self supplying sprayers, and hose fittings. Sprayers were being advertised as part of their range in 1960 and the company is mentioned in 1970 newspaper article as being suppliers of "light pressure sprayers". However, by this time they were plastic products. The company ceased operating in the mid 1970s.

There is a patent implemented by Smith & Davis Ltd for a swivel nozzle for a sprayer. This is GB270543A applied for 1 September 1926 and accepted 12 May 1927. The applicant was Philip Harry Bailey. Smith & Davis Ltd have other patents but none relating to sprayers.

Trademark - BEACON

Syringes

Swivel Nozzle Syringes

The patent was applied for in 1926, so they probably started being made about this time. These sprayers do not appear in the 1951 or 1955 advertising so probably had been discontinued by then. However, they are not uncommon, so some were probably made post WW II. The nozzle incorporated a fast-fill valve controlled by a ball and had a spray shield.

Smith & Davis Ltd

Above :- [543] {3} Barrel length 20 inches and diameter 1 inch. Beacon metal plate which also has the patent number 270543. Patented swivel nozzle head which has separate fast-fill valve. Three nozzle caps (one missing) all with spray plugs. Shield on nozzle. Rose nozzle. Holder on barrel for nozzles not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Leather back-to-back cup washer piston with spring on piston rod.

Left :- The external view of the spray head showing the fast-fill entry. The fast-fill valve is controlled by a ⅛ ball.

Left :- The inside of the spray head with the components removed. The ⅛ ball is shown. This fits into the slot shown to the left of the ball.

Right :- The spray head as illustrated in the patent. It does not incorporate a fast-fill valve,

Above :- [419] {3} Barrel length 14 inches and diameter 1 inch. Beacon metal plate which also has the patent number 270543. Shown with the patented swivel nozzle head which has been taken from another sprayer. Three nozzle caps (one missing) all with spray plugs. Shield on nozzle. Rose nozzle. Holder on barrel for nozzles not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Leather back-to-back cup washer piston with spring on piston rod.

Plain Syringes (No Drip Preventer)

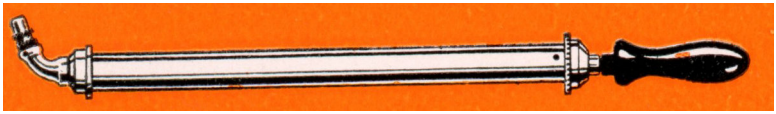
Above :- Model 607 as illustrated in 1955. This is described as having a strong brass tube with good quality fittings and a screw off rose. Collared both ends. Length 18 inches with a diameter of 1½ inches. Polished brass. Weight 1lb 9oz.

Smith & Davis Ltd

Above :- [869] {3} Brass syringe with brass "Beacon" plate. Barrel length 18 inches with a diameter of $1^{7}/_{16}$ inches. Two rose nozzles and a jet nozzle with holder on barrel for nozzles not in use. Barrel end cap screws directly onto an external thread on the barrel. Solid brass piston rod $^{5}/_{16}$ inch in diameter with spring. Back-to-back leather cup washers. Similar to model 608, but in 1958 and 1965 this model is advertised as having just one rose nozzle. It may also have had collars on both ends of the barrel.

Above :- [122] {2}. Similar to model 608, but the barrel diameter is 1⅜ inches which is less than the nominal 1½ inches as advertised. Brass barrel length 18 inches. Rose and jet nozzles. Piston rod solid brass $^{5}/_{16}$ inch in diameter. Back-to-back cup washer piston, which may be of an artificial material and not leather.

Above :- [827] {2}. Similar to model 608. Brass barrel diameter is 1½ inches. Barrel length 18 inches. Rose and jet nozzles. Piston rod solid brass $^{5}/_{16}$ inch in diameter. Back-to-back cup washer piston. Metal plate on barrel "Beacon".



Above :- Model 610 from the 1955 catalogue. Described as having a strong brass tube with good quality fittings. Valve specially designed for quick filling. Barrel length 14 inches with a diameter of 1 inch. Polished brass. Weight 1 lb 1½ oz.

Smith & Davis Ltd

Above :- [408] {2} Model 610 identified from box only. Length 14 inches with a diameter of 1 inch. Removable spray head with an integrated fast-fill valve. This has a stud shaped fitting (see left). Hollow brass piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washer piston.

Above :- [287 {4] Model unknown. Brass barrel length 8 inches with a diameter of 1 inch. Fixed spray head with an integrated fast-fill valve. This has a stud shaped fitting (see above). Solid brass piston rod ¼ inch in diameter. Back-to-back leather cup washer piston. Beacon decal on barrel.

Above :- [163] {3} Model 609. Beacon decal on barrel. Brass barrel length 16 inches and diameter is 1¼ inches. Removable spray nozzle with a fixed bend. Rose nozzle and holder for nozzle not in use. The spray nozzle has an integrated fast-fill valve controlled by a hexagonal stud with a small washer. Piston solid steel $^{5}/_{16}$ inch in diameter with a spring. Back-to-back leather cup washer piston.

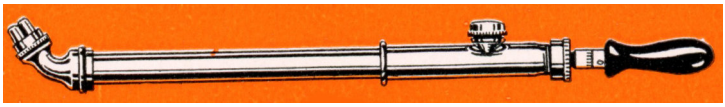
Above :- [543 {2} Model 633. The sprayer has the remains of a square label. The manufacturers and model are identified only from the box. Brass barrel length 16 inches and diameter ⅞ inch. Spray head with integrated fast-fill valve with the hexagonal stud shaped valve (left). Solid brass piston rod ¼ inch in diameter. Back-to-back leather cup washer piston with a spring on the piston rod. Note the handle shape which dates after 1955 (Catalogue 1965).

Smith & Davis Ltd

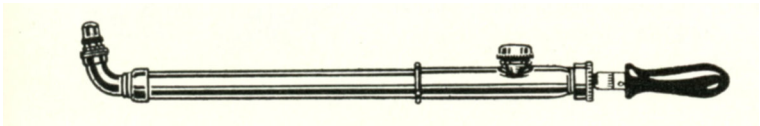
Syringes with Drip Preventer

Model 657 appears to have been the main one with a drip preventer. Originally this seems to have been fitted with a spray nozzle with a separate fast-fill valve. Later this was changed to a nozzle with an integrated fast-fill valve.

Above :- [343] {3} Possible an early model 657 with the nozzle missing. Brass syringe with Beacon plate. Length 16 inches and diameter ⅞ inch. Purser type drip preventing sleeve 5¼ inches long. Rose nozzle. Missing second nozzle which was probably a spray nozzle Hollow brass piston rod $^{5}/_{16}$ inch in diameter with a spring. Back-to-back leather cup washer piston.



Above :- Model 657 from the 1955 catalogue. Described as having a strong brass tube with good quality fittings, including drip sleeve and stuffing box complete with bend and spare rose on side holder. Valve specially designed for quick filling and easy cleaning. Barrel length 16 inches with a diameter of ⅞ inch. Polished brass. Weight 1 lb 6 oz. A 20 inch version weighing 1lb 30 oz was also available.

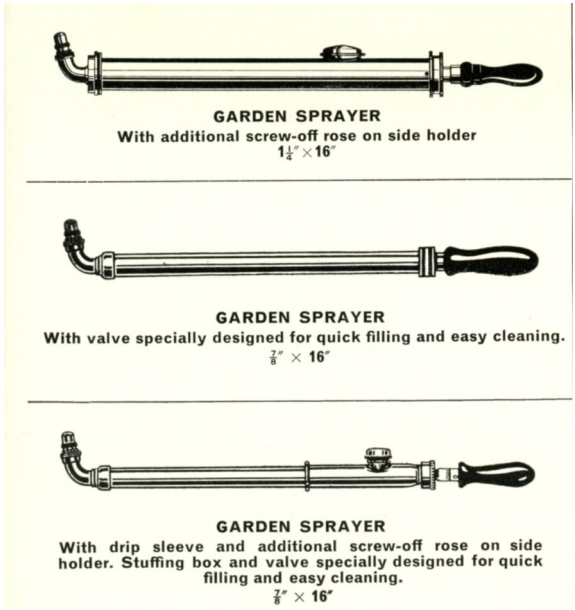


Above :- Model 657 from the 1966 catalogue. Described as having a drip sleeve and stuffing. Valve specially designed for quick filling and easy cleaning. Barrel length 16 inches with a diameter of ⅞ inch. Sateen finish.

Above :- [272] {3} This appears to be Model 657. It has a nozzle with an integrated fast-fill valve and not one with the separate fast-fill valve of the 1955 version. The handle is different, and the barrel appears to have the sateen finish. This version of model 657 appears in the 1965 catalogue. Beacon decal on barrel. Brass barrel length 16 inches and diameter ⅞ inch. Purser type drip preventer 5½ inches in length. Fixed spray nozzle with bend. Rose nozzle and holder for nozzle not in use. The spray nozzle has an integrated fast-fill valve controlled by a hexagonal stud. Solid brass piston rod ¼ inch in diameter. Back-to-back leather cup washer piston. Sprayer [951] is identical.

Smith & Davis Ltd

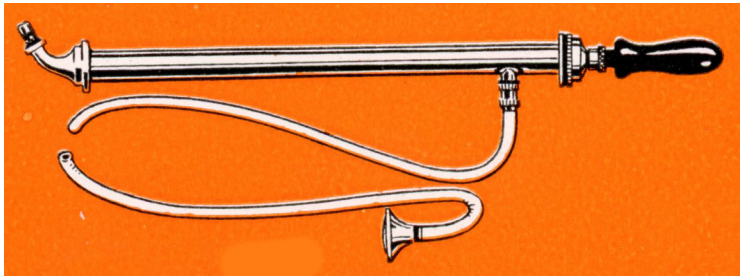
Above :- [278] {2} Model 657 (from box). Beacon decal on barrel. Brass barrel length 16 inches and diameter ⅞ inch. Purser type drip preventer 5 inches in length. Fixed spray nozzle with bend. Rose nozzle and holder for nozzle not in use. The spray nozzle has an integrated fast-fill valve controlled by a hexagonal stud (left). Solid brass piston rod ¼ inch in diameter. Back-to-back leather cup washer piston. Box with orange bordered label. This version of Model 657 has a spray nozzle with an integrated fast-fill valve rather than the separate fast-fill valve of the 1955 catalogue version. The handle shape is different. Known from 1965 and 1966 catalogue.

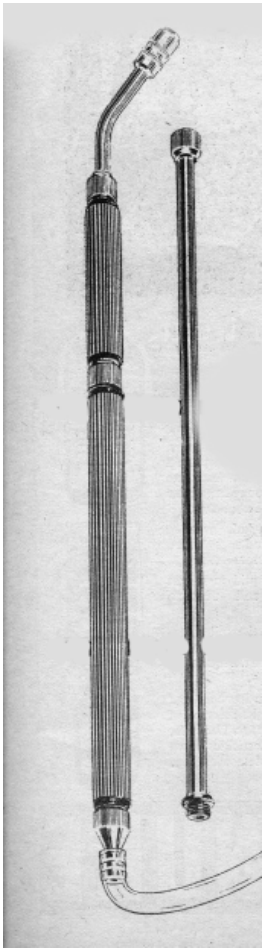


Above :- The three syringe models in the 1966 catalogue. Models 609,633 and 657.

Smith & Davis Ltd

Continuous Action Sprayers



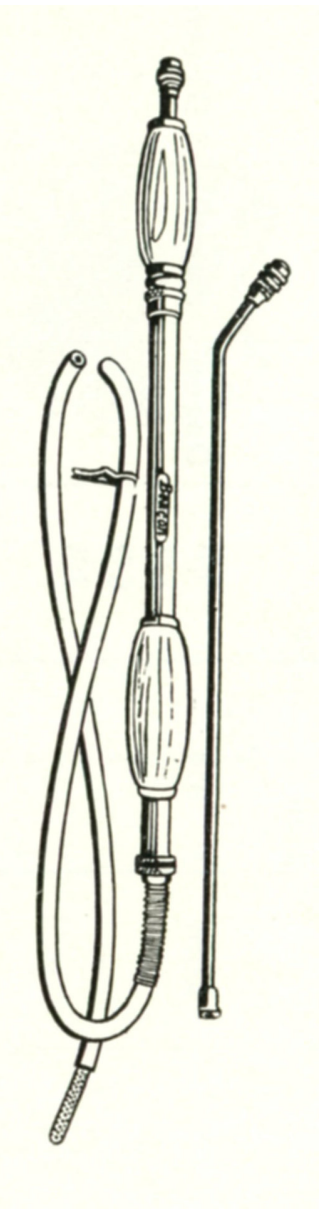


Above :- Model 635. Drawing from the 1955 catalogue of a brass single action sprayer. Barrel length 16 inches and diameter ⅞ inch. Provided with five feet of rubber hose and filter inlet valve. Polished brass weighing 2lb. Also in the 1965 catalogue but not the 1966 one.

Left :- Advertised in 1962 as the Model 670. Named the SIX SEVENTY sprayer. See the full advertisement below. In 1966 the price was £1.2.6.

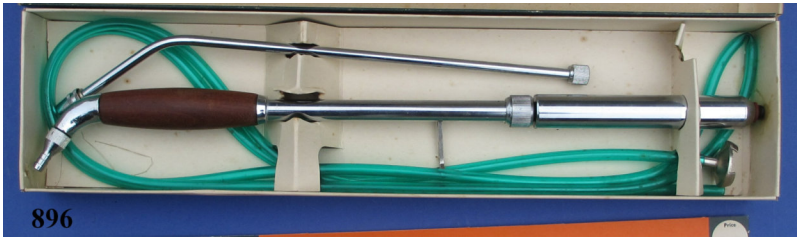
This appears to be a double action sprayer of the SOLO type.

Smith & Davis Ltd

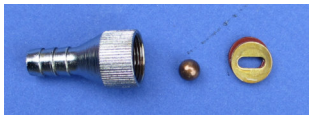


Left :- [973] - Model 671 in the 1975 catalogue Double action sprayer. Polished extension nozzle. Two polished wood grips. It came with 10ft of green plastic hose with a bucket clip and filter. This appears to be a standard implementation of this type of sprayer similar to the 670 in operation but of a different appearance.

Smith & Davis Ltd

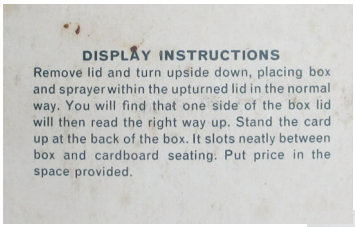


Above :- [896] Model 530. Advertised in 1966 catalogue as being a new product. Price £3.5.0 in 1966. Double action sprayer. Barrel length 12 inches with diameter ⅞ inch. Chromium plated with one wooden grip. Other grip contains the air chamber. Green plastic hose with a bucket clip and filter. In perfect condition in original box. Rear valve and piston valve but without valve in filter. Lance 12 inches long with adjustable spray nozzle.



Left :- The inlet valve controlled by a ball.

Left :- The piston valve. This uses a rubber 'O' ring as the seal on the piston.

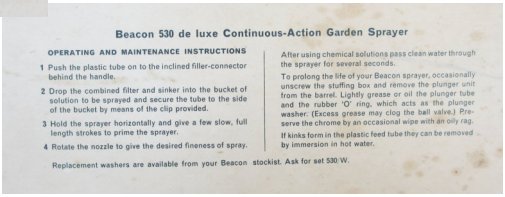


DISPLAY INSTRUCTIONS

Remove lid and turn upside down, placing box and sprayer within the upturned lid in the normal way. You will find that one side of the box lid will then read the right way up. Stand the card up at the back of the box. It slots neatly between box and cardboard seating. Put price in the space provided.

Left :- User instructions from box.

Below :- Display instructions from box.



Beacon 530 de luxe Continuous-Action Garden Sprayer

OPERATING AND MAINTENANCE INSTRUCTIONS

1 Push the plastic tube on to the inclined filler-connector behind the handle.

2 Drop the combined filter and sinker into the bucket of solution to be sprayed and secure the tube to the side of the bucket by means of the clip provided.

3 Hold the sprayer horizontally and give a few slow, full length strokes to prime the sprayer.

4 Rotate the nozzle to give the desired fineness of spray.

After using chemical solutions pass clean water through the sprayer for several seconds.

To prolong the life of your Beacon sprayer, occasionally unscrew the stuffing box and remove the plunger unit from the barrel. Lightly grease or oil the plunger tube and the rubber 'O' ring, which acts as the plunger washer. (Excess grease may clog the ball valve.) Preserve the chrome by an occasional wipe with an oily rag.

If kinks form in the plastic feed tube they can be removed by immersion in hot water.

Replacement washers are available from your Beacon stockist. Ask for set 530/W.

Smith & Davis Ltd

Pneumatic Sprayers

Above :- [463] {2} Model 660. Pneumatic sprayer with plastic container and metal parts. The container is embossed Beacon. Featured in the 1965 catalogue. It has the Good Gardens Institute Seal of Merit. Plastic barrel length 13cm with a diameter of 22mm. Working capacity is 850 cc. Metal spray nozzle with plastic spray plug. Piston rod 6 mm in diameter of chromium plated brass. Pump knob and handle are green plastic.

Above :- Pump valve components.

Right :- Lever spray mechanism.

Smith & Davis Ltd

Above :- Drawing of Model 690. De-luxe pressure sprayer with plastic container and solid brass chromium plated fittings. Capacity 6 pints. Trigger action with an adjustable nozzle. Lance 15 inches long. Available in 1966 for £4.10.0.

Smith & Davis Ltd

1960 Advertisements

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Chapter 36

Solo Sprayers Ltd

Solo Sprayers Ltd

Solo Sprayers Ltd.

Progress Road, Southend on Sea, Essex.

In 2020 at 48 Vanguard Way, Shoeburyness, Essex SS3 9RA

Solo Sprayers Limited was originally known as the FNP Manufacturing Company Ltd and this company was formed in 1926 in Birmingham, England. The purpose of the company is no longer clear, but it may have been formed to take forward a patent for a double acting self supplying sprayer granted to William James Denston. Patent number GB280003A was applied for on 4 October 1926 and granted on 10 November 1927.

In 1927 the company was purchased by Mr Henry Vale and his business partner, a Mr W Hood. The SOLO sprayer is first mentioned in 1927. There was an agreement between Mr Denston of Thos. Denston & Son of Birmingham and the FNP Manufacturing Company who were to act as selling agents for the sprayer. This arrangement continued for a number of years until the death of Mr Denston in 1938.

All the business interests of Mr Denston were purchased by FNP Manufacturing Company and the sprayers continued to be made in Birmingham by a Mr W Shelley Creak at the premises in Masshouse Lane. In 1941 these premises were bombed and trading for the next year was very difficult. Trading continued with great difficulty due to the problems of obtaining materials. To add to the problems Mr Henry Vale died and his younger son Mr Arthur George Vale took over the running of the company.

After the war Mr Richard Henry Vale, discharged from active service, took over as Managing Director from his younger brother. Demand far exceeded the supply which could be obtained from the factory in Birmingham so in 1949 it was decided to make the sprayers in Southend on Sea, Essex. "Solo Sprayers Ltd" was incorporated on 15 November 1949 with Arthur George Vale as the Company Director. The sprayers continued to be made in Southend with an office at 90 Gracechurch Street London EC 3. In 1952 new premises were obtained in Eastwood just outside Southend. At this time Solo Sprayers Ltd took over the manufacture and sales of the sprayer and FNP Manufacturing ceased trading.

Solo Sprayers Ltd

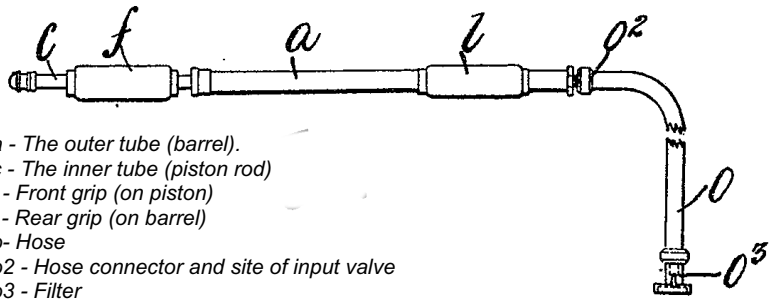
Mr Richard John Vale, took over from his father in 1985 and in 2022 was still a director. The company now sells all types of sprayers for many different purposes, and a sprayer similar to the original SOLO sprayer was still being supplied in 2022.

Catalogues for the 1960s, 1970s and 1980s show a wide range of products. I have not covered these in detail except where I actually have an example in my collection. However, I have included the catalogues as appendices so that the information is not lost.

Three sprayers based on the original design were available up to 2021. In 2022 only one model remained available.

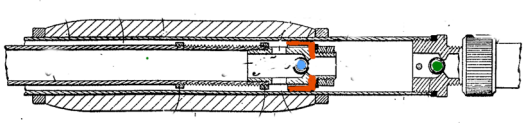
The 1927 Patent - Double action sprayer.

The sprayer in the 1927 patent is described as having two relatively arranged manually operated telescopic tubes. That is one tube fitting inside the other so that the smaller of the tubes can be moved in or out of the larger tube. In effect the smaller tube is a hollow piston rod and the larger tube the barrel of the sprayer. Input is via the end of the barrel and output through the hollow piston rod. The end of the piston rod which remains inside the barrel has a piston and also a valve. The other end has the nozzle through which the liquid is sprayed. The barrel has a valve at the hose connection end. At the ends of the hose is a filter which goes into the liquid to be sprayed. Both tubes have a hand grip which allows the user to move them relative to one another. Preferably with the inner tube remaining stationary. The valve and piston arrangement is such that liquid is sprayed on both the pull stroke and the push stroke giving a continuous spray. Diagrams explaining the working of the sprayer are included in Volume 3 of this series.



a - The outer tube (barrel).
c - The inner tube (piston rod)
f - Front grip (on piston)
l - Rear grip (on barrel)
o- Hose
o2 - Hose connector and site of input valve
o3 - Filter

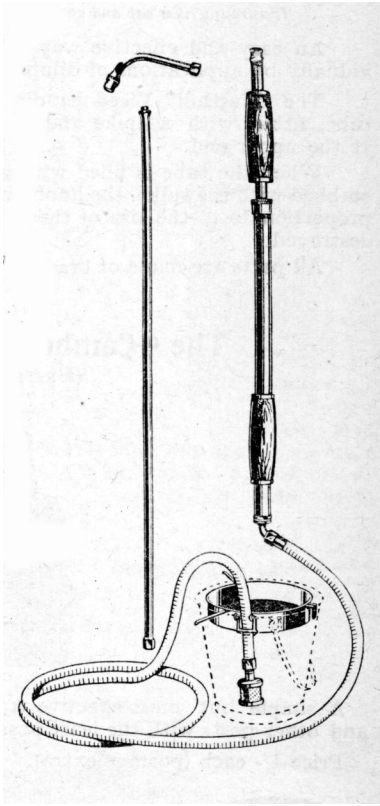
Solo Sprayers Ltd



Left :- The valve and piston arrangement. Red is the piston. Blue is the piston valve and green the input valve.

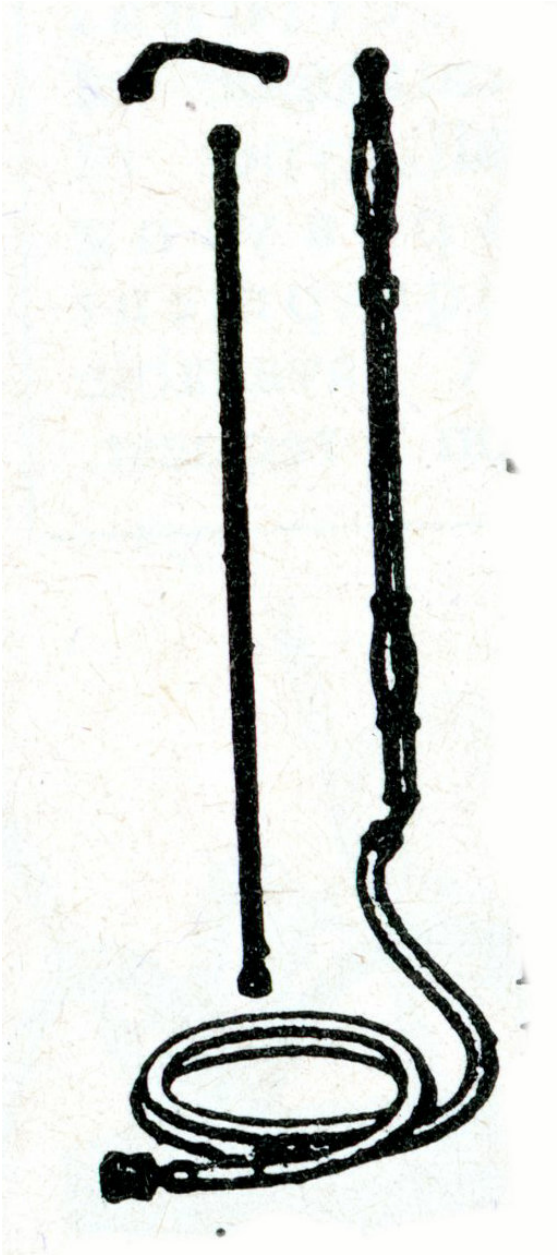
The same basic construction is used on sprayers from 1927 to 2022. However, there have been various models and within a model there have been changes over time. One of the later changes was the introduction of an air chamber. This was place around the piston rod and doubled as a grip. An air chamber evens out the flow especially at the point between the push and pull strokes.

Double Action Sprayers



Left :- A 1937 drawing of the Solo Double action sprayer. Advertised for Horticultural spraying, limewashing, creosoting, disinfecting. Capable of drawing 250 ft with a lift of 25 ft. The 1937 price was 28/6. The sprayer is not given a model number which suggests that at the time this was the only sprayer in the range. It has similarities with both the later Model 27 and Model 28. However, I believe it to be the forerunner of the Model 27.

Solo Sprayers Ltd



Left :- A 1959 drawing of the Solo Double Action sprayer. Advertised for Horticultural spraying, limewashing, creosoting, disinfecting. It came with a 2ft extension lance, an angle bend and 10ft of suction hose with a bucket clip. It has the shaped handles of Model 27. This is the model shown below (my collection number 241).

Solo Sprayers Ltd

Above :- [241] {3} Model No. 27. This sprayer is similar in most respects to the description in the patent. Believed to date to the late 1950s. However, some of the accessories in the box may be later. Barrel (outer tube) length 13 inches and diameter ¾ inch. Piston (inner tube) length 20 inches and diameter ½ inch. Piston is a leather cup washer. The piston valve is controlled by a brass ball. Lance 20 inches long. Bend on short extension. Spray nozzle. SOLO on a metal plate on the barrel. Shaped wooden grips. The inlet valve is in the hose connector and is controlled by a brass ball. Plastic hose with a metal filter which has a valve. The difference between this and the sprayer in the 1937 illustration is the shaped handles and the hose. In 1937 the hose was rubber ply rather than plastic.

Left :- The piston and the piston valve.

Left :- The barrel/hose connector which contains the input valve.

Right :- The input valve.

Left :- The filter. This contains a ball valve. It would prevent liquid in the tube from flowing back into the container.

Right :- The spray nozzle showing the spray plug.

Solo Sprayers Ltd

Left :- The bucket clip which holds the hose in place in the bucket or container.

Right :- The bend.

Below :- The SOLO plate on the barrel.

Above :- [241] {2} Model No. 28. Barrel (outer tube) length 13 inches and diameter ⅝ inches. Piston (inner tube) length 18 inches and diameter ½ inch. The piston valve is controlled by a brass ball. Lance 9 inches long with bend. Piston is a leather cup washer. Plastic tube with a filter which has a valve.

Left :- The piston and end of the piston rod with the valve.

Solo Sprayers Ltd

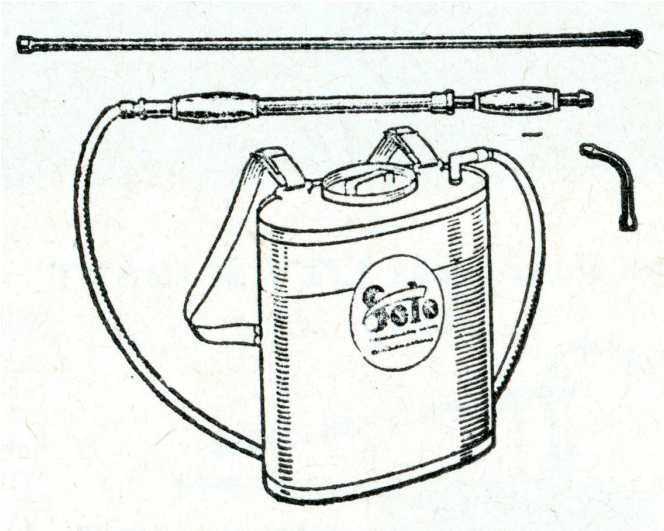
Left :- The hose connection which incorporates the inlet ball valve. Note that this forms a straight connection rather than the angled connection sometimes used.

Right :- The bucket clip.

Left :- The filter. This incorporate a ball valve.

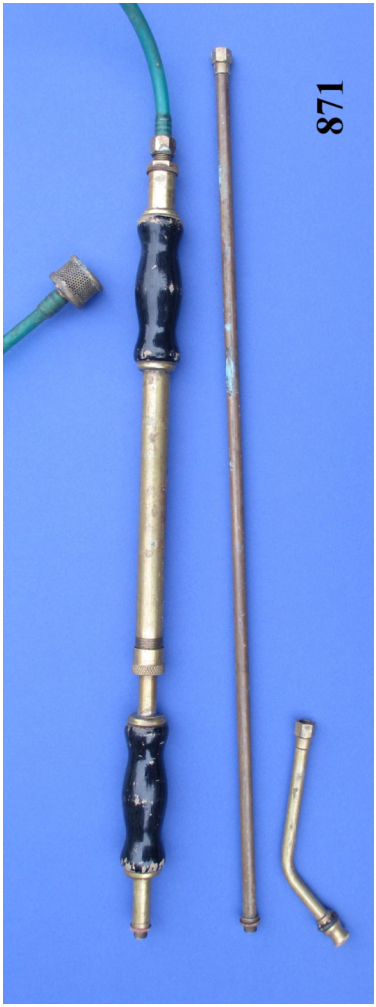
Right :- The spray nozzle showing the spray plug. .

A



Above :- Drawing from 1957 of the SOLO KNAPSACK SPRAYING OUTFIT. The container capacity was 3 gallons and it weighed 6 pounds. It came with 3 ft of rubber hose. The sprayer appears to be a model 28 as the barrel/hose connection does not have a bend and the grips are not shaped. Price complete 110 shillings.

Solo Sprayers Ltd



Left :- [871] {2} Barrel (outer tube) length 13 inches and diameter ¾ inch. Piston (inner tube) length 20 inches and diameter ½ inch. Piston is a leather cup washer. The piston valve is controlled by a brass ball. Lance 20 inches long. Bend on short extension. Spray nozzle. SOLO on a metal plate on the barrel. Wooden shaped wooden grips. The inlet valve is in the hose connector and is controlled by a brass ball. Plastic hose with a metal filter which has a valve. The hose connection which incorporates the inlet ball valve forms a straight connection rather than the angled connection sometimes used. Not marked SOLO.

This sprayer came with literature which could possibly date it to 1985.

Solo Sprayers Ltd

Above :- [578] {4} This is a combination of a Solo sprayer and a Matineau and Smith cannister. The sprayer has SOLO metal plate and the cannister is embossed Martsmith. Originally, it was thought that this was a match made later by a retailer or an individual. However, the same configuration has been found by other collectors and the something similar appears in 1940 Martineau and Smith advertising. The sprayer is essentially the same as the one described above, except it has plastic coated handles and the connection at the end of the barrel has been adapted to fit a tube which screws into the cannister.

Left :- The pipe running from the SOLO sprayer into the cannister.

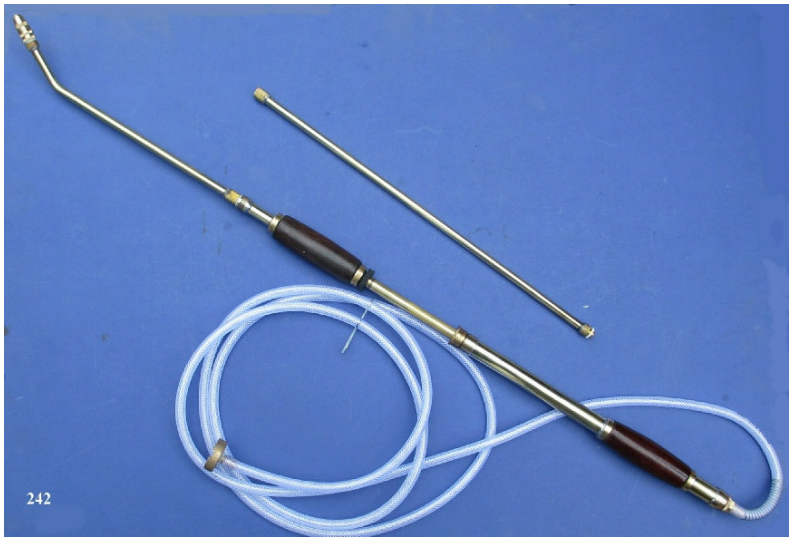
Right :- The logo from the cannister. The cannister is 6 inches high with a diameter of 3 inches. Holding just over a pint of liquid.

Solo Sprayers Ltd

Above :- [771] {2} A later version of the No. 27 with yellow plastic grips. Solo decal on barrel. Barrel length 14 inches and diameter ¾ inch. Piston rod ½ inch in diameter. Leather cup washer piston. Piston valve is a ball. Inlet valve where hose connects is controlled by a brass ball. Lance 22 inches long. The stuffing box seal is a leather washer.

Above :- [635] Model No. 28 MK 1. Purchased 2018. Still available in 2022. Solo engraved on stuffing box. Barrel length 13 inches and diameter ⅝ inches. Piston rod ⅜ inch in diameter. Leather cup washer piston. Piston valve is a ball. Inlet valve where hose connects is controlled by a brass ball. Lance 9 inches long plus bend. Stuffing box seal is rubber "O" ring. No valve in the strainer. Spray and adjustable spray nozzle. The differences with Model 28 shown above [241] are that the grips are not varnished, the stuffing box seal is rubber not leather, and the strainer is a different shape and does not have a valve. In 2020 this sprayer was provided with a plastic strainer (see inset), but by 2022 the metal one was once again being provided.

Solo Sprayers Ltd

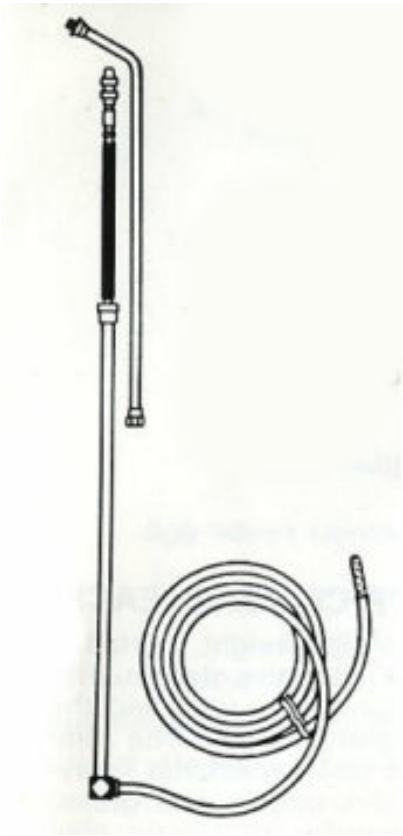


Above :- [242] Model No. 27/80 MK III. Purchased 2018. The model was withdrawn around 2020. Barrel length 13 inches and diameter ¾ inch. Piston rod ½ inch in diameter. Leather cup washer piston. Piston valve is a ball. Inlet valve where hose connects is controlled by a brass ball. Lance 17 inches long. Lance with bend 9 inches long. Stuffing box seal is rubber "O" ring. Strainer does not have a valve. Fitted with an adjustable nozzle.

Above :- [140] SOLOMISER 80. Purchased 2018. The model was withdrawn around 2020. The same as the Model No. 27/80 MK III [242] but with an air chamber which forms the front grip.

Solo Sprayers Ltd

Above :- [826] Model No. 28 MK 1 as supplied in 2022. Essentially the same as the Model 28 Mk 1 ([635] above]. It came with a 17 inch (nominally 18 inch) straight lance which was not with the model in 2018. The strainer is metal and not the plastic type which was used for a short while in 2020.



Left :- Drawing of the STAR sprayer. This was a no frills version of the double action sprayers described above. It came with an 8 inch angle bend and 12 ft of plastic tubing. It had an adjustable nozzle. It was used by the National Spastics Society (Now Scope) as part of a weekly draw.

Right :- The STAR would have been similar to this sprayer. However, the dimensions suggest that it is not. A similar sprayer was sold by Boots (Timothy Whites).

Solo Sprayers Ltd

Syringes

Two syringes are known. Both of which I think were made by R.Harris (Brassfounder), Birmingham and supplied in Solo packaging. They have a number of characteristics which are identical to syringes produced by R.Harris. Particularly, the fast-fill valves and in some cases the special nut used to secure the cup washers.

Above :- [137] {1} Solo is embossed on the bend but otherwise not marked. Barrel length 16 inches with a diameter of ⅞ inch. Purser type drip preventer 6 inches long. Removable bend embossed SOLO RAPID. Rose nozzle. Piston is of the cotton reel type 6 inches long. Brass ⅝ inch hollow brass piston rod. It has a stuffing box. Nozzle is a spray with a separate fast-fill valve. This is controlled by a tack shaped component with a washer.

Left :- The spray nozzle. Left the spray opening and right the fast-fill valve with the pin protruding.

Right :- The inside of the nozzle.

Above :- [165] {1} Solo is embossed on the bend but otherwise not marked. Lacquered barrel length 16 inches with a diameter of ⅞ inch. Purser type drip preventer 5½ inches long. Removable bend embossed SOLO RAPID. Rose nozzle. Piston is back-to-back leather cup washers on a ⅜ inch solid steel piston rod with a spring. It has a stuffing box.

Above :- [195]. SOLO Rapid box but syringe is not marked. Lacquered barrel length 16 inches with a diameter of ⅞ inch. Purser type drip preventer 6 inches long. Removable bend. Spray nozzle of the tack shape with small rubber washer (see left). Piston is back-to-back leather cup washers on a $^{5}/_{16}$ inch solid steel piston rod with a spring. It has a stuffing box.

Solo Sprayers Ltd

Above :- [395] {1} Solo No. 41 FLORA garden syringe. Lacquered barrel length 16 inches with a diameter of ⅞ inch. Fixed bend. Piston is leather back-to-back cup washers. Steel $^{5}/_{16}$ inch solid steel piston rod. Nozzle is a spray with an integrated fast-fill valve. This is controlled by a hexagonal shaped component (left) which is not fixed.

Above :- [411] {1} Solo No. 41 FLORA garden syringe. Lacquered barrel length 16 inches with a diameter of ⅞ inch. Fixed bend. Piston is leather back-to-back cup washers. Steel 5/16 inch solid steel piston rod. Nozzle is a spray with an integrated fast-fill valve. This is controlled by a hexagonal shaped component as above which is not fixed in the nozzle cap.

Above :- Solo No. 40 MIDGET syringe. Known from 1962 catalogue. Barrel length 12 inches with a diameter of ⅞ inch. Nozzle appears to be one with a fast-fill valve.

Other Sprayers

There are several metal sprayers in brass, steel and stainless steel mentioned in promotional material from the 1960s and 1970s. At least some of them appear to have been bought in from other manufacturers and may not have been marked SOLO. There are also metal and plastic containers designed for use with the Solo Double Action sprayers. Other garden accessories were also sold. The leaflets and catalogues I have come across are included in the appendices below. Dates are in most cases approximate, based on content and prices.

Solo Sprayers Ltd

Letter 1952

WORKS:
SOUTHEND-ON-SEA,
ESSEX.

MANUFACTURERS OF "SOLO"
AGRICULTURAL AND HORTICULTURAL
SPRAYERS.

DIRECTORS:
A. G. VALE.
R. H. VALE.

SOLO SPRAYERS LTD.

90, GRACECHURCH STREET,
LONDON, E.C.3.

TELEPHONE:
MANSION HOUSE 0158.

TELEGRAMS:
ALLUCOBRA-LONDON.

Solo
for one man Spray

5th Aug 1952.

D.J. Bunting Esq,
"Moorview"
10. Franklyn Road,
Chesterfield.

Dear Sir/Xxxxx,

In reply to your enquiry, we have pleasure in enclosing herewith particulars of our "SOLO" SPRAYER.

"SOLO" SPRAYERS are Double Action Suction sprayers, which you use with perfect ease.

A simple and handy little sprayer is essential in every Garden, and you can also do LIMEWASHING, CREOSOTING or DISINFECTING - in fact any spraying job.

"SOLO" SPRAYERS ARE GUARANTEED TO GIVE SATISFACTION OR MONEY REFUNDED.

The prices shown are postage paid send us your order NOW - in the postage paid envelope - we will despatch within 2/3 days.

THOUSANDS ARE IN USE THROUGHOUT THE WORLD.

Yours faithfully,

SOLO SPRAYERS LTD.

R. H. Vale

Solo Sprayers Ltd

Leaflet 1952

Creosote and Disinfectant

You can creosote your woodwork with Solo.

It is well known that Creosote is a cheap preservative for Woodwork of any description; if all Fences, Sheds, Outhouses, Garages, etc., were given a dressing of Creosote twice a year, they would last ten times as long. Think how expensive it is when a fence or any wooden structure has to be repaired. In ten minutes you can spray 50 feet of close fencing at the cost of a few pence.

NOT ONLY IS SPRAYING QUICKER

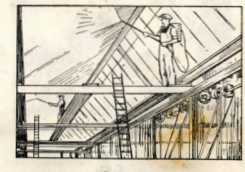
but the Creosote is driven right into the timber, and into all the cracks and holes caused by the ravages of wind and weather. Think of the number of every day jobs to be done, such as cleaning down Windows, glazed or tiled walls, motor cars, disinfecting urinals, stables, spraying petrol on stagnant water surfaces, stripping wallpaper, maintaining moisture in damping rooms, emptying tanks, gullies or sinks, drawing water from a well or stream, and a hundred and one other jobs, too numerous to mention.

ALWAYS USE A SPRAYER — Solo (the one man spray) — Sold Complete for use No Extras Required

The Sprayer for every day practical use, there is no job too small and none too large, whether for the Farm or Factory, Garden or Orchard.

YOU CANNOT AFFORD TO BE WITHOUT ONE

It is the cheapest and finest Double Action Suction Sprayer, giving a continuous and unbroken spray, that has yet been produced. Sold only under guarantee, and complete for every spraying purpose. There are no extras to buy. You run no risk if you buy "Solo."



Solo will limewash your factory.

"Solo" is practically everlasting, if any part is lost, mislaid, broken or worn out, it can be replaced by a spare part, at a trifling cost and without the slightest trouble. Examine illustrations showing construction of the Sprayer, with every part numbered and explained. Just think how easy to keep such an article in order, and compare with an awkward Bucket Pump or complicated power machine.

THOUSANDS ARE IN USE TO-DAY

Stockists and Agents are to be found in every Foreign Country or British Possession throughout the World. "Solo" is acknowledged the best and is the only British Made sprayer that has been able to capture the Foreign Market itself. It defies all competition, and there are no dissatisfied customers.

BUY ONLY A GUARANTEED SPRAYER

SUPPLIED COMPLETE NO EXTRAS TO BE BOUGHT — Solo (the one man spray)

ALL OTHER HAND SPRAYERS ENTIRELY SUPERSEDED.

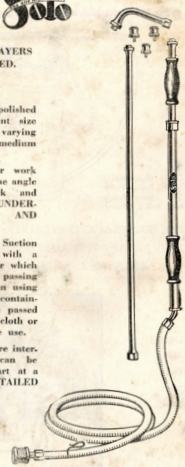
The Outfit Comprises:

Solid Brass Pump with polished wood grips; three different size nozzles which give a spray varying in size from fine mist to medium and very coarse.

Brass Extension Piece for work above the normal height; the angle bend for intricate work and especially for spraying UNDERNEATH ANY OBJECT AND ROUND CORNERS.

A long length of Rubber Suction Hose is supplied fitted with a Special Foot Valve Strainer which prevents unwanted matter passing into the Sprayer but when using Limewash or other liquids containing sediment it should be passed through a piece of muslin cloth or other suitable sieve before use.

All parts of this sprayer are interchangeable — any part can be replaced by a spare part at a moment's notice.—See DETAILED CHART INSIDE.



Sole Manufacturers: SOLO SPRAYERS, LTD., 90, Gracechurch Street, London, E.C.3.

Guaranteed for Every Spraying Purpose

INSECTICIDES, SANITARY AND ANTI-MALARIAL etc., etc. — Solo (the one man spray) — LIMEWASHING, CREOSOTING, DISINFECTING, etc., etc.

ALL OTHER HAND SPRAYERS ENTIRELY SUPERSEDED.

Keep pests at bay the Solo way

Solo spraying is the quickest, simplest and most satisfactory for every spraying job on the FARM, FIELD, GARDEN OR ORCHARD.

Solo supersedes all other types of syringe or bucket sprayers. It throws a jet 40ft., draws water 240ft. along level ground and lifts 25ft. from a well. It is light and easy to use—yet very powerful. No other sprayer can offer such advantages at the price.

Sold only—under guarantee. Money back if not entirely satisfied.

Outfit comprises Solid Brass Double Action Spray Pump, 3 different size nozzles from finest Mist spray to coarsest Lime spray. Brass Extension piece for Work above normal height and Brass Angle Bend. Rubber Suction Hose with Brass Foot Strainer.

All parts are detachable, see detailed chart inside allowing repairs and replacements at a moment's notice.

SOLO SPRAYERS LTD.,
90 Gracechurch Street, London, E.C.3
Telephone: MANsion House 0158

Solo Sprayers Ltd

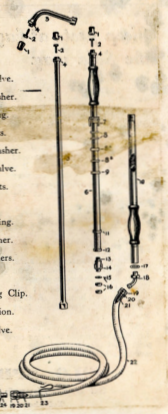
Leaflet 1952 - Page 3/4

THE SPRAYER THAT LASTS A LIFETIME

EVERY DETAILED PART IS RENEWABLE AND WITHOUT DIFFICULTY

Detailed Chart showing every component part of the Sprayer Numbered and Priced for Replacement or Renewal.

1. Nozzles.
2. Rotars.
3. Angle Bend.
4. Leather Washers.
5. Lance
6. Inner Tube.
7. Large Cap.
8. Leather Packing Washers.
8a. Cone Washer.
8b. Fibre Washer.
9. Loose Ring.
10. Outer Tube.
11. Distance Ring.
12. Lock Ring.
13. Inner Valve.
14. Cup Washer.
15. Brass Ring.
16. Lock Nuts.
17. Fibre Washer.
18. Outer Valve.
19. Hose Nuts.
20. Leather Packing Washer.
21. Hose Liners.
22. Hose.
23. Adjusting Clip.
24. Base Union.
25. Foot Valve.



Solo Knapsack Outfit

Weight empty only 6½ lbs. Holds 3 gallons.

Outfit Comprises : Solid Brass Pump 2-ft. Lance, Angle Bend and 3 Nozzles

THE KNAPSACK CONTAINER COMPLETE WITH HOSE AND STRAPS FOR USE WITH ORDINARY TYPE SOLO SPRAYER CAN BE SUPPLIED IF REQUIRED.

LIGHT AND EASY TO WORK

ALWAYS READY FOR INSTANT USE

Invaluable in the Garden

The "Solo" Sprayer will quickly destroy all insects and bring new life into your plants, If you have never tried a DOUBLE ACTING SPRAYER you will be delighted with the easy way the "Solo" works—You just drop the end of the Rubber Hose into a bucket of water and then a few strokes of the Pump will produce a constant spray—No hard work, no fatigue—Just one continuous spray. A long extension lance is supplied to reach the top of the Trees, and an Angle Bend to enable you to spray underneath the leaves. No other Sprayer is so delightfully easy to use and yet so efficient. Gardening is made a pleasure and you save Time, Material and Labour.

Spray Every Day Keeps Insects Away.

Simple to use. Clean and Easy.

All other types of sprayers and syringes entirely superseded. "Solo" is quicker in action and never wears out—No bending down to refill, nothing to make you tired—Just one easy and continuous spray.

Solo is ideal for the Garden or Orchard

BUY ONLY A GUARANTEED SPRAYER

LIMEWASHING CREOSOTING DISINFECTING ETC., ETC.

INSECTICIDE AND ANTI-MALARIAL OIL SPRAYING ETC., ETC.

YOUR SPRAYER WILL LAST A LIFETIME

Clean and oil sprayer frequently. Before you commence work, test it out in plain water to see if it works properly. If it leaks at the large cap No. 7 on chart, then it is that the packing washers have either become dry and hard or worn out. Unscrew the cap and give washers a good soaking in olive oil, if that does not stop leakage new packing washers are needed.

To fit new packing washers study chart and see how simple it is. Be sure to remove old washers from the packing cap No. 7, then take two No. 8 leather washers which are split to allow you to slip them easily over the piston or inner tube No. 6, next comes the brass cone washer No. 8a and underneath that put a fibre washer No. 8b. It is quite simple. Oil the screw down the packing cap again.

If sprayer does not work on both the up and down stroke of the pump, i.e., if not continuous then it is one of the ball valves. Sometimes a ball becomes stuck in the valve perhaps through some liquid which has dried hard, the remedy is to clean the ball with a little paraffin so that it moves freely. If the ball continues to get fixed up, then a new valve is required. See the chart and unscrew part No. 13 for the inner valve, replacing with new inner valve complete parts Nos. 13/14/15/16. If the outer ball valve is faulty unscrew part No. 18 and replace.

If sprayer gets choked whilst in use, remove foot valve strainer from bucket and clear surface, then see that the nozzle is clear also by removing rotar.

NO OTHER SPRAYERS OFFER SUCH ADVANTAGES.

Solo Sprayers Ltd

Prices 1952

PRICES

"SOLO" SPRAYER ... ... **50/-** EACH
(Hand Type)

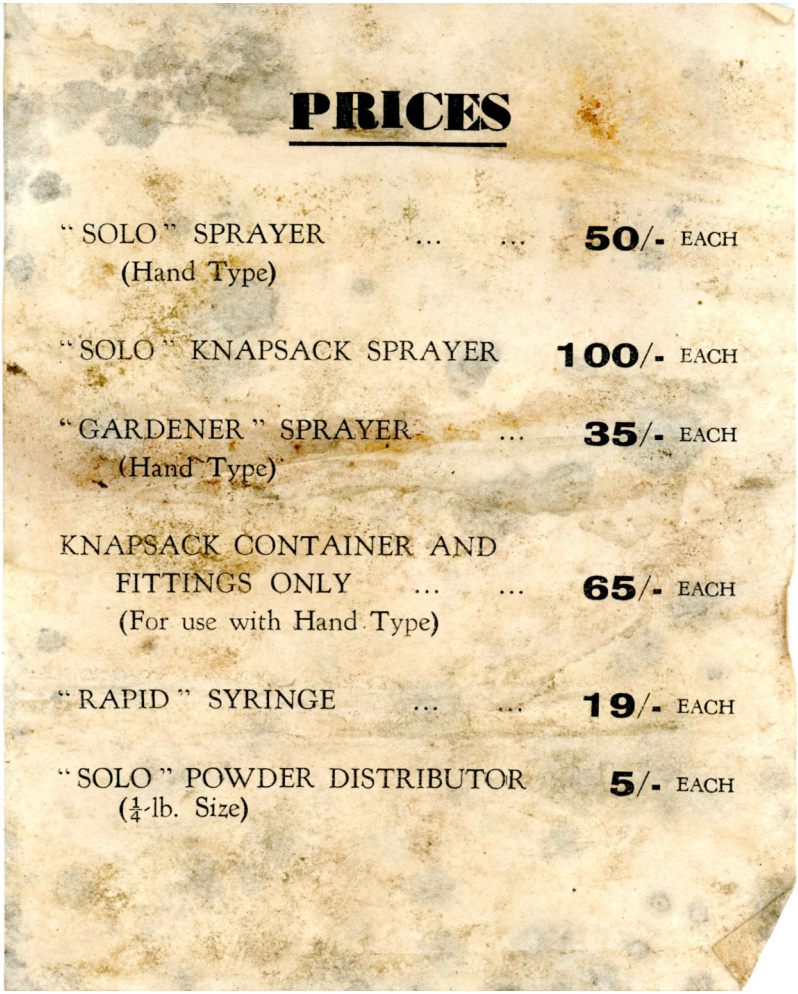
"SOLO" KNAPSACK SPRAYER **100/-** EACH

KNAPSACK CONTAINER AND
FITTINGS ONLY ... ... **65/-** EACH
(For use with Hand Type)

ITEM No.	DESCRIPTION	PRICE
1 and 2	Spraying Nozzles (Lime, Creo. or Mist).	2/- each
2	Rotar for Nozzle	9d. ,,
3	Angle Bend	3/9 ,,
4	Leather Washers	1/6 doz.
5	Extension Lance 2-ft.	6/9 each
	Extension Lance 3-ft.	8/3 ,,
6	Inner Tube only	9/6 ,,
7	Screw Cap	2/- ,,
8	Leather packing washers	1/6 doz.
8a	Brass Cone Washer	9d. each
8b	Fibre Packing Washer	1/9 doz.
9	Brass Loose Ring	8d. each
10	Outer tube only	9/9 ,,
11 and 12	Brass Screwed Rings	10d. ,,
13	Inner Ball Valve only	3/2 ,,
14	Leather Cup Washer	7d. ,,
15 and 16	Brass Ring and lock nuts	1/6 set
17 and 18	Outer Valve and Washer	4/4 each
19/20/21	Hose Nut and Liner	2/- set
22	Rubber Hose any length	1/- foot
23	Bucket Clip	1/9 each
24	Foot Valve only	2/- each
24 and 25	Foot Valve and Strainer	4/3 ,,
	Complete Set of Washers	1/10 ,,

Solo Sprayers Ltd

Prices 1952



PRICES

"SOLO" SPRAYER (Hand Type)	**50/-** EACH
"SOLO" KNAPSACK SPRAYER	**100/-** EACH
"GARDENER" SPRAYER (Hand Type) ...	**35/-** EACH
KNAPSACK CONTAINER AND FITTINGS ONLY (For use with Hand Type)	**65/-** EACH
"RAPID" SYRINGE	**19/-** EACH
"SOLO" POWDER DISTRIBUTOR ($\frac{1}{4}$-lb. Size)	**5/-** EACH

Solo Sprayers Ltd

Leaflet 1952

SOLO SPRAYERS LTD.

90, GRACECHURCH STREET. LONDON E.C.3.

TELEPHONE:— MANSION HOUSE 0158

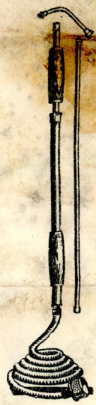
The one man Spray Solo

COMPLETE KNAPSACK OUTFIT

3 GALLON CONTAINER AND PUMP LANCE, BEND, 3 NOZZLES.

The one man Spray Solo

The Double Action Sprayer

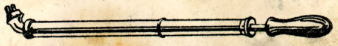


OUTFIT COMPRISES:- PUMP, 2FT. LANCE, ANGLE BEND, 3 DIFFERENT SIZE NOZZLES, LENGTH BRITISH MADE HOSE WITH FOOT STRAINER AND BUCKET CLIP.

GARDENER'S SPRAY PUMP

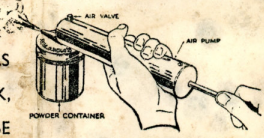
OUTFIT COMPRISES:- PUMP, 12" BEND, HOSE AND FOOT STRAINER

SOLO-RAPID GARDEN SYRINGE



SIZE $\frac{7}{8}$" BARREL 16"LONG

SOLO POWDER DISTRIBUTOR



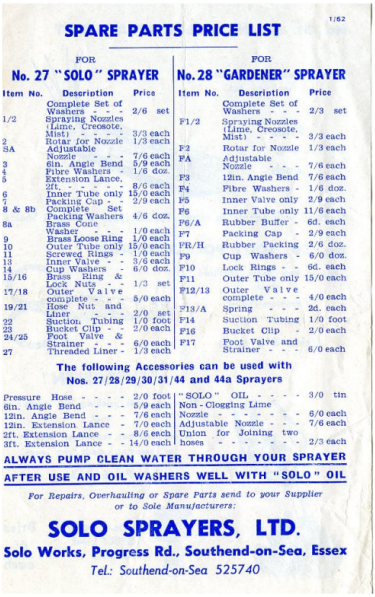
HOLDS ½ LB. POWDER.

SPARE PARTS FOR ALL SPRAYERS CAN BE OBTAINED FROM STOCK, OR ANY SPRAYER CAN BE OVERHAULED IF NECESSARY.

HIGHLY COMMENDED BY THE ROYAL HORTICULTURAL SOCIETY.

Solo Sprayers Ltd

Spare Parts Price List 1962



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SPARE PARTS PRICE LIST

FOR

No. 27 "SOLO" SPRAYER

Item No.	Description	Price
	Complete Set of Washers	2/6 set
1/2	Spraying Nozzles (Lime, Creosote, Mist)	3/3 each
2	Rotar for Nozzle	1/3 each
3A	Adjustable Nozzle	7/6 each
3	6in. Angle Bend	5/9 each
4	Fibre Washers	1/6 doz.
5	Extension Lance, 2ft.	8/6 each
6	Inner Tube only	15/0 each
7	Packing Cap	2/9 each
8 & 8b	Complete Set Packing Washers	4/6 doz.
8a	Brass Cone Washer	1/0 each
9	Brass Loose Ring	1/0 each
10	Outer Tube only	15/0 each
11	Screwed Rings	1/0 each
13	Inner Valve	3/6 each
14	Cup Washers	6/0 doz.
15/16	Brass Ring & Lock Nuts	1/3 set
17/18	Outer Valve complete	5/0 each
19/21	Hose Nut and Liner	2/0 set
22	Suction Tubing	1/0 foot
23	Bucket Clip	2/0 each
24/25	Foot Valve & Strainer	6/0 each
27	Threaded Liner	1/3 each

FOR

No. 28 "GARDENER" SPRAYER

Item No.	Description	Price
	Complete Set of Washers	2/3 set
F1/2	Spraying Nozzles (Lime, Creosote, Mist)	3/3 each
F2	Rotar for Nozzle	1/3 each
F4A	Adjustable Nozzle	7/6 each
F3	12in. Angle Bend	7/6 each
F4	Fibre Washers	1/6 doz.
F5	Inner Valve only	2/9 each
F6	Inner Tube only	11/6 each
F6/A	Rubber Buffer	6d. each
F7	Packing Cap	2/9 each
F8/H	Rubber Packing	2/6 doz.
F9	Cup Washers	6/0 doz.
F10	Lock Rings	6d. each
F11	Outer Tube only	15/0 each
F12/13	Outer Valve complete	4/0 each
F13/A	Spring	2d. each
F14	Suction Tubing	1/0 foot
F16	Bucket Clip	2/0 each
F17	Foot Valve and Strainer	6/0 each

The following Accessories can be used with Nos. 27/28/29/30/31/44 and 44a Sprayers

Pressure Hose	2/0 foot	"SOLO" OIL	3/0 tin
6in. Angle Bend	5/9 each	Non-Clogging Lime Nozzle	6/0 each
12in. Angle Bend	7/6 each	Adjustable Nozzle	7/6 each
12in. Extension Lance	7/0 each	Union for Joining two hoses	2/3 each
2ft. Extension Lance	8/6 each		
3ft. Extension Lance	14/0 each		

ALWAYS PUMP CLEAN WATER THROUGH YOUR SPRAYER AFTER USE AND OIL WASHERS WELL WITH "SOLO" OIL

For Repairs, Overhauling or Spare Parts send to your Supplier or to Sole Manufacturers:

SOLO SPRAYERS, LTD.

Solo Works, Progress Rd., Southend-on-Sea, Essex

Tel.: Southend-on-Sea 525740

No. 51. EDGING SHEAR ATTACHMENT

Collects the clippings as you cut.

Price 7'6 each

Supplied with adjustable clamp. Fits all types of Edging Shears.

No. 50. SOLO POCKET PRUNER

Made from finest Sheffield steel.

Chromium Plated.

Only 3½" long.

Price 8'6 each

"EVERGREEN"

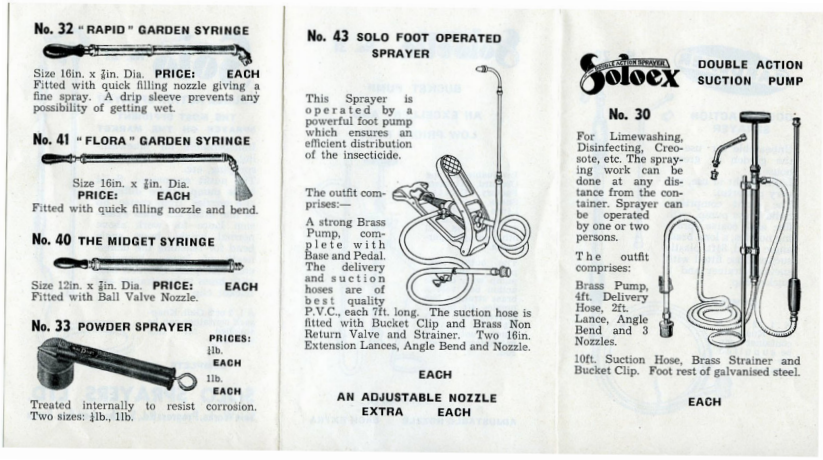
Stainless steel pricking out gardening tool.

For pricking out seedlings. Also useful for removing weeds from lawns.

Price 3'3

NON-CLOGGING NEEDLE LIME NOZZLES **Price 6'- each**

Leaflet May 1962



No. 32 "RAPID" GARDEN SYRINGE

Size 16in. x ⅜in. Dia. **PRICE: EACH**

Fitted with quick filling nozzle giving a fine spray. A drip sleeve prevents any possibility of getting wet.

No. 41 "FLORA" GARDEN SYRINGE

Size 16in. x ⅜in. Dia. **PRICE: EACH**

Fitted with quick filling nozzle and bend.

No. 40 THE MIDGET SYRINGE

Size 12in. x ⅜in. Dia. **PRICE: EACH**

Fitted with Ball Valve Nozzle.

No. 33 POWDER SPRAYER

PRICES: ½lb. **EACH** 1lb. **EACH**

Treated internally to resist corrosion. Two sizes: ½lb., 1lb.

No. 43 SOLO FOOT OPERATED SPRAYER

This Sprayer is operated by a powerful foot pump which ensures an efficient distribution of the insecticide.

The outfit comprises:—

A strong Brass Pump, complete with Base and Pedal. The delivery and suction hoses are of best quality P.V.C., each 7ft. long. The suction hose is fitted with Bucket Clip and Brass Non Return Valve and Strainer. Two 16in. Extension Lances, Angle Bend and Nozzle.

EACH

AN ADJUSTABLE NOZZLE EXTRA EACH

Soloex — DOUBLE ACTION SUCTION PUMP

No. 30

For Limewashing, Disinfecting, Creosote, etc. The spraying work can be done at any distance from the container. Sprayer can be operated by one or two persons.

The outfit comprises:

Brass Pump, 4ft. Delivery Hose, 2ft. Lance, Angle Bend and 3 Nozzles.

10ft. Suction Hose, Brass Strainer and Bucket Clip. Foot rest of galvanised steel.

EACH

Solo Sprayers Ltd

Leaflet May 1962

The GARDENER Spray Pump

No. 28

DOUBLE ACTION SPRAYER

Unbeatable for use in the garden or greenhouse.
Lightweight to use, yet very powerful.
The outfit comprises: Solid brass pump, with fine and coarse spraying nozzles, a long brass angle bend, 8½ft. plastic suction hose fitted with suction strainer and a bucket clip.

COMPLETE

A 1, 2 or 3 Gall. Knapsack container can be supplied for this sprayer.

Soloette

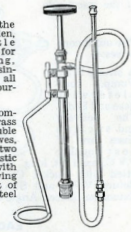
No. 31

BUCKET PUMP

AN EXCELLENT AND LOW PRICED PUMP

Invaluable in the Orchard, Garden, Factory, Cattle Sheds, etc., for Lime-washing, Creosoting, Disinfecting and all other spraying purposes.

The outfit comprises: Solid brass pump with double action ball valves, brass strainer, two nozzles, 4ft. plastic delivery hose with 2ft. brass spraying lance. Foot-rest of galvanised steel rod.



COMPLETE

ADJUSTABLE NOZZLE EACH EXTRA

Solo one man Spray

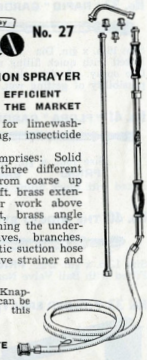
No. 27

DOUBLE ACTION SPRAYER

THE MOST EFFICIENT SPRAYER ON THE MARKET

Indispensable for limewashing, creosoting, insecticide spraying, etc.
The outfit comprises: Solid brass pump, three different size nozzles from coarse up to fine mist; 2ft. brass extension lance for work above normal height, brass angle bend for reaching the underneath of leaves, branches, etc.; 10ft. plastic suction hose with brass valve strainer and bucket clip.

A 1, 2 or 3 Gall. Knapsack container can be supplied for this sprayer.



COMPLETE

SOLO SPRAYERS, LTD.

Solo Works, Progress Rd., Southend-on-Sea, Essex

No. 29 "EASTWOOD"

3 GALLON SIZE

The Outfit comprises: Brass double action pump. Three nozzles: fine, medium and coarse. 2ft. extension lance, angle bend, 3-gall. lead-coated sheet metal container, two adjustable shoulder straps, 4ft. plastic hose, internal valve and strainer.

Weight of complete outfit: 7½lb.
Weight of container empty: 5½lb.

EACH

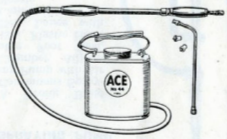
No. 44 "ACE"

1 & 2 Gall. size

The outfit comprises: Brass double action pump. Two nozzles: fine and coarse, 12in. angle bend. A 1 or 2-gall. lead-coated sheet metal container, one adjustable shoulder strap, 3ft. plastic hose and internal strainer.

Weight of complete outfits: 1 Gall. 4½lb.
2 Gall. 5lb.
Weight of containers empty: 1 Gall. 3lb.
2 Gall. 3½lb.

PRICE: 1 Gall. EACH
2 Gall. EACH



No. 44/P 1 & 2 GALL.

PLASTIC KNAPSACK SPRAYER

The Outfit comprises: Brass double action pump, two nozzles: fine and coarse. 12in. angle bend. 1 or 2 gall. rigid plastic container, one adjustable strap, 3ft. plastic hose and internal strainer.

Weight of complete outfit: 1 Gall. 3lb.
2 Gall. 3¼lb.
Weight of container empty: 1 Gall. 1¼lb.
2 Gall. 1¾lb.

PRICE: 1 Gall. EACH
2 Gall. EACH

THE CONTAINERS CAN BE SUPPLIED SEPARATELY

Solo Sprayers Ltd

Leaflet May 1962

No. 36 "PROGRESS" PNEUMATIC SPRAYER

For all Insecticides. Brass Container, 42in. x ⅜in. Bore Hose, fitted with Trigger Release, 18in. Bent Lance, and an adjustable nozzle. Removable self contained Pump. Webbing Strap also included. Supplied in 3 sizes.

Prices:—
1 Gall. 2 Gall. 3 Gall.

No. 35/P GREENHOUSE SPRAYER

Force Feed Brass Pump, fitted with fine strainer to prevent blockages in the nozzle. Container made from polythene. Capacity ½ pint.

EACH

No. 42 "UNION" LIMEWASHING AND SPRAYING PUMP

A strong Brass Continuous Spraying Pump with Air Chamber, Adjustable Foot Rest, 42in. Plastic Hose, 15in. Lance with Limewashing Nozzle.

EACH

Bordeaux Nozzle extra.

No. 38 LAWN SPRINKLER

Strongly made of polished brass with aluminium stand. Supplied with tapered connection for ¾in., ⅝in. and ½in. Hose. Will cover 1,000 sq. ft.

EACH

No. 37 PNEUMATIC HAND SPRAYER

Copper Container with brass fittings. Filler cap is fitted with Safety Valve. Fine Nozzle, Bent Lance and shut off tap. Can be fitted to pole for spraying Tall Plants.

4 Pint **EACH**

6 Pint **EACH**

No. 45 PNEUMATIC TRIGGER RELEASE SPRAYER

All Copper container with brass fittings. Working capacity 1¼ pts. Quick trigger release action. Fine Spray. Complete with 3in. Bent Lance

EACH

6in. Bent Lance extra **EACH**

Solo Sprayers Ltd

Catalogue 1964 - Letter

Telephone: SOUTHEND-ON-SEA 525740

SOLO SPRAYERS LTD.

AGRICULTURAL AND HORTICULTURAL SPRAYING MACHINES

SOLO WORKS, PROGRESS RD., EASTWOOD, SOUTHEND-ON-SEA, ESSEX

Dear Sirs,

We have pleasure in enclosing a copy of our 1964 Catalogue giving full details and prices of our "SOLO" Spraying Machines and Syringes.

We should like to bring to your notice our ACE-470, which is an addition to our range of lightweight Knapsack Sprayers, this retails at 95/- each.

Do not forget our usual established lines: No.26 "GARDENER" Sprayer, No.27 "SOLO" Sprayer, MIDGET, FLORA & RAPID Syringes. All these are packed in decorated boxes.

We will again be maintaining our intensive advertising programme in the Gardening Weeklies.

Place your stock order NOW - we will despatch by return.

Yours faithfully.
SOLO SPRAYERS LTD.

Director.

Solo Sprayers Ltd

Catalogue 1964 - Page 1/2

The GARDENER SPRAY PUMP

No. 28

DOUBLE ACTION SPRAYER

Unbeatable for use in the garden or greenhouse.

Lightweight to use, yet very powerful.

The outfit comprises: Solid brass pump (with fine and coarse spraying nozzles), a long brass angle bend, 8½ft. plastic suction hose fitted with suction strainer and a bucket clip.

42/6 COMPLETE

A 1, 2 or 3 gallon knapsack container can be supplied for use with this sprayer.

The following items can also be obtained:—

2ft. EXTENSION LANCE
8/6 EACH

ADJUSTABLE NOZZLE
7/6 EACH

All parts of this sprayer can be replaced at a moment's notice

BUY ONLY A GUARANTEED SPRAYER

The one man Spray

Solo

No. 27 DOUBLE ACTION SPRAYER

The SOLO double action continuous Sprayer is indispensable for all limewashing, creosoting, insecticide spraying, etc.

The outfit comprises : Brass pump, three different size nozzles from coarse up to fine mist; 2ft. brass extension lance for work above normal height, brass angle bend for reaching the underneath of leaves, branches, etc., 10ft. suction hose with brass valve strainer and bucket clip.

Price **60/-** complete

A 1, 2 or 3 gallon knapsack container can be supplied for use with this sprayer.

The following items can also be obtained:—

3ft. Extension Lance
14/- each

Adjustable Nozzle
7/6 each

All parts of this Sprayer can be replaced at a moment's notice

SOLO SPRAYERS, LTD.

Solo Works, Progress Road, Southend-on-Sea, Essex

Tel.: Southend-on-Sea 525740

DOUBLE ACTION SPRAYER

Soloex

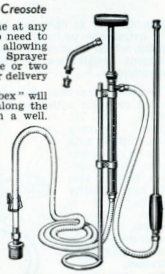
No. 30 DOUBLE ACTION SUCTION PUMP

For Limewashing, Disinfecting, Creosote

The spraying work can be done at any distance from the bucket. No need to keep moving the bucket, thus allowing much wider range of work. Sprayer can be operated by either one or two persons. Any length suction or delivery hose may be used.

Note the power of pump: "Soloex" will draw the water up to 200ft. along the level ground or lift 25ft. from a well.

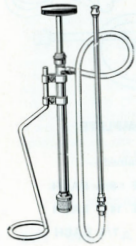
The outfit comprises: Brass pump, 4ft. delivery hose, 2ft. brass spraying lance, angle bend and three nozzles for limewash, medium and fine spray, 10ft. suction hose, brass strainer and bucket clip, and footrest of galvanised steel rod.



PRICE 80/-

All parts of this Sprayer can be replaced at a moment's notice.

Spare part prices are the same as for the "Solo," except hose.



BUCKET SPRAY PUMP

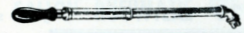
Soloette

No. 31 DOUBLE ACTION BUCKET PUMP

for limewashing, creosoting, disinfecting and all other spraying purposes. The outfit comprises: Brass pump with double action ball valves, brass strainer, two nozzles, 4ft. delivery hose with 2ft. brass spraying lance; footrest of galvanised steel rod, shaped for use with ordinary bucket. All parts interchangeable with "SOLO" Sprayers. Spare part prices are the same as for the "SOLO," except hose.

PRICE 70/-

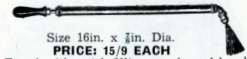
No. 32 "RAPID" GARDEN SYRINGE



Size 16in. x ⅞in. diameter. **PRICE 26/- EACH**

Fitted with quick-filling nozzle, giving a fine spray. A drip sleeve prevents any possibility of getting wet.

No. 41 "FLORA" GARDEN SYRINGE



Size 16in. x ⅞in. Dia.
PRICE: 15/9 EACH
Fitted with quick-filling nozzle and bend.

No. 40 THE MIDGET SYRINGE

Size 12in. x ⅞in. diameter. **PRICE 13/6 EACH**
Fitted with Ball Valve Nozzle.

No. 33 POWDER SPRAYER

PRICES:
½lb. **5/9 EACH**
1lb. **27/- EACH**

Treated internally to resist corrosion. Two sizes: ½lb., 1lb.

No. 35/P GREENHOUSE SPRAYER

Force Feed Brass Pump, fitted with fine strainer to prevent blockages in the nozzle. Container made from polythene. Capacity ½-pint.

16/- EACH

Solo Sprayers Ltd

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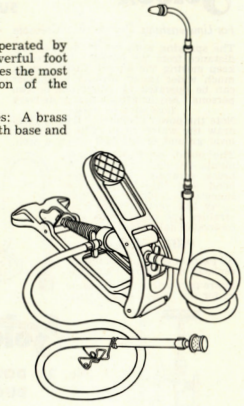
No. 43 SOLO FOOT OPERATED SPRAYER



This sprayer is operated by an extremely powerful foot pump, which ensures the most efficient distribution of the insecticide.

The outfit comprises: A brass pump, complete with base and pedal. A 7ft. plastic delivery hose fitted with brass connections. The 7ft. suction hose is also of best quality plastic and is fitted with a bucket clip, a brass non-return valve and suction strainer. Two 16in. long brass extension lances, a brass angle bend and a nozzle are also supplied.

PRICE: 87/6 COMPLETE

The following items can also be obtained:—

2ft. EXTENSION LANCE 8/6 EACH

3ft. EXTENSION LANCE 14/- EACH

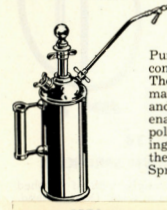
ADJUSTABLE NOZZLE 7/6 EACH

No. 36 'PROGRESS' PNEUMATIC SPRAYER

Suitable for spraying most insecticides. Complete with 42in. ⅜in. bore best quality plastic hose. Fitted with trigger release and an adjustable nozzle, one webbing shoulder strap, safety valve and self-contained removable pump. The material from which this sprayer is made offers considerable resistance to corrosive liquids. Working pressure 30lb. per sq. in. Two-gallon and three-gallon brass container.

PRICE: 2-GALL. **170/-**
PRICE: 3-GALL. **180/-**

No. 37 'SWIFT' PNEUMATIC HAND SPRAYER

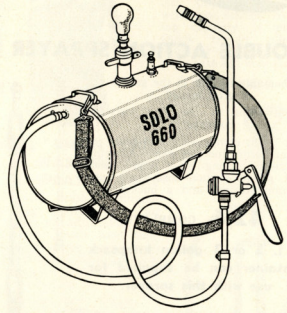


Pump and fittings of brass and container of polished copper. The filler cap is fitted with automatic safety valve. Spray lance and shut-off tap. Tubular handle enables sprayer to be fitted to a pole or bamboo lance for spraying grapes or tall plants beyond the reach of the ordinary Sprayer. Four- and six-pint size.

4 pint 108/- each 6 pint 120/- each

It is essential that the containers of all Sprayers should be thoroughly cleaned after use

SOLO 660
ONE GALLON PNEUMATIC SPRAYER



A pneumatic sprayer of simple and robust design, for use with all insecticides. The 660 Sprayer is made from best quality brass sheet, it is light in weight and easy in operation. The bent extension lance is fitted with a trigger release control and the variable nozzle adjusts immediately to give a spray from very fine to long-range jet. The brass tank has a working capacity of one gallon and the outfit weighs 6½lb.

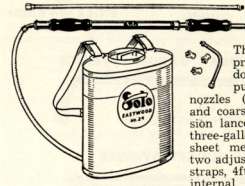
The outfit comprises: Brass tank 8¼in. x 8in. x 8in., brass pump, 12in. bent extension lance, variable nozzle, trigger release control, 42in. best quality P.V.C. tubing, adjustable webbing strap.

2ft. extension lance 8/6, flat fan jet nozzle 6/- (available if required).

PRICE 130/- EACH

KNAPSACK SPRAYERS

No. 29 "EASTWOOD" (3 gallon size)

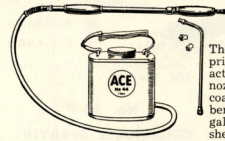


The outfit comprises: Brass double-action pump, three nozzles (fine, medium and coarse), 2ft. extension lance, angle bend, three-gallon lead-coated sheet metal container, two adjustable shoulder straps, 4ft. plastic hose, internal valve and strainer.

Weight of complete outfit: 7½lb.
Weight of container empty: 5½lb.

120/- EACH

No. 44 "ACE" (1 and 2 gallon size)



The outfit comprises: Brass double-action pump, two nozzles (fine and coarse), 12in. angle bend, a one- or two-gallon lead-coated sheet metal container or a one- or two-gallon polythene container, one adjustable shoulder strap, 3ft. plastic hose and internal strainer.

PRICE: METAL OR PLASTIC CONTAINER —

1 Gall. 77/- EACH

2 Gall. 88/- EACH

ADJUSTABLE NOZZLE — 7/6 EACH

Solo Sprayers Ltd

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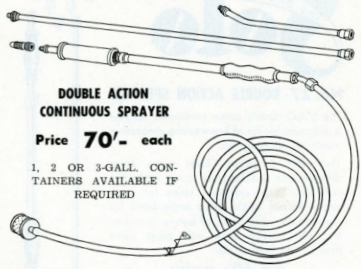
SOLOMISER – 80



DOUBLE ACTION CONTINUOUS SPRAYER

Price 70/- each

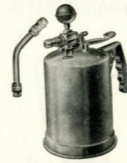
1, 2 OR 3-GALL. CONTAINERS AVAILABLE IF REQUIRED

The outfit comprises: Solid Brass Pump fitted with a Compression Chamber, which ensures a continuous spray. A variable Nozzle which adjusts instantly to any type of spray from fine mist to long range jet. 2ft. Brass Extension Lance for work above normal height, a 12in. Angle Bend for reaching underneath leaves, bushes, etc. 10ft. best quality P.V.C. Suction Tubing fitted with a brass non-return valve and strainer, a clip is also supplied to hold tubing in container. All parts of this sprayer are interchangeable, any part can be replaced by a spare at a moment's notice.

The following item can also be obtained:

3FT. EXTENSION LANCE — 14/- EACH

BUY ONLY A GUARANTEED SPRAYER



No. 45 PNEUMATIC TRIGGER RELEASE SPRAYER

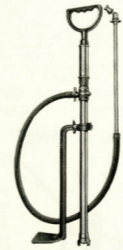
All Copper container with brass fittings. Working capacity 1¼ pints. Quick trigger release action. Fine spray. Complete with 3in. bent lance.

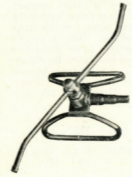
55/- EACH

No. 42 "UNION" LIME-WASHING AND SPRAYING PUMP

A strong brass continuous spraying pump with air chamber, an adjustable foot-rest, 42in. plastic hose, 15in. extension piece with lime-washing nozzle set at an angle for spraying underneath leaves, etc.

PRICE 85/- EACH





No. 38 LAWN SPRINKLER

Strongly made of polished brass with Delrin stand. Fitted with tapered connection for hose. Will cover over 1,000 square ft.

PRICE 25/- EACH

Solo Sprayers Ltd

Catalogue 1964 - Separate leaflet

KNAPSACK CONTAINERS

For use with Sprayers Nos. 27/28/80 and No. 29/44/44A

No. 39 —3 GALLON LEAD-COATED SHEET METAL CONTAINER

4ft. hose, two shoulder straps and internal fittings

Price 65/- each

No. 46 —1 GALLON LEAD-COATED SHEET METAL CONTAINER

No. 46/A —2 GALLON LEAD-COATED SHEET METAL CONTAINER

includes adjustable shoulder strap, 4ft. hose and internal fittings

Price: 1 Gallon size 39/-

2 Gallon size 50/-

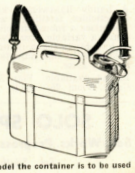
No. 46/P —1 GALLON PLASTIC CONTAINER

No. 46/AP—2 GALLON PLASTIC CONTAINER

includes adjustable shoulder strap, hose and internal fittings

Price: 1 Gallon size 36/-

2 Gallon size 47/-

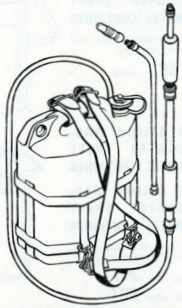


When ordering please state with which model the container is to be used

ACE 470

TWO GALLON PLASTIC KNAPSACK SPRAYER

WEIGHT 4LB. EMPTY



PRICE 95/- EACH

A handy lightweight knapsack sprayer for use with all insecticides, fertilisers, weedkiller, etc. The ACE-470 Outfit comprises a robust double-action Brass Pump, 24in. Extension Bend, a variable Nozzle which can be adjusted from very fine to long-range jet, a non-corrodible two-gallon Polythene Container with two adjustable plastic straps and 4ft. Plastic Suction Hose.

Extras available: Flat Fan Jet Nozzle 6/- each. Two-jet Cross Boom 20/- each. Double nozzle adaptor 14/- each.

SOLO SPRAYERS, LTD.

Solo Works, Progress Rd., Southend-on-Sea, Essex

Tel.: Southend-on-Sea 525740

Solo Sprayers Ltd

Catalogue 1964 - Reply Envelope

Solo Sprayers Ltd

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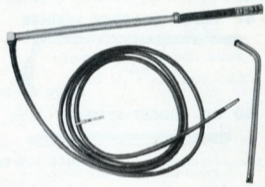
No. 81 STAR DOUBLE ACTION SPRAYER



A new all-brass continuous action hand sprayer, comprising an easy-to-use lightweight double-action brass pump with 12in. polished brass bent extension for underleaf spraying, a fully adjustable nozzle from coarse to very fine spray, 8ft. P.V.C. suction tube, complete with bucket clip and filter. SPARE PARTS ALWAYS AVAILABLE.

A 1-, 2- or 3-Gallon knapsack container can be supplied for use with this sprayer.

PRICE **30/-** EACH

The following item can also be obtained:—

2ft. EXTENSION LANCE 9/- EACH

SOLO SPRAYERS, LTD.

Solo Works, Progress Road, Southend-on-Sea, Essex

Tel.: Southend-on-Sea 525740

The one man Spray

Solo

No. 27 DOUBLE ACTION SPRAYER

The SOLO double action continuous Sprayer is indispensable for all limewashing, creosoting, insecticide spraying, etc.

The outfit comprises: Brass pump, three different size nozzles from coarse up to fine mist; 2ft. brass extension lance for work above normal height, brass angle bend for reaching the underneath of leaves, branches, etc., 10ft. suction hose with brass valve strainer and bucket clip.

Price **66/-** complete

A 1, 2 or 3 gallon knapsack container can be supplied for use with this sprayer.

The following items can also be obtained:

3ft. Extension Lance 14/- each

Adjustable Nozzle 7/6 each

All parts of this sprayer can be replaced at a moment's notice

The GARDENER

No. 28

DOUBLE ACTION SPRAYER

Unbeatable for use in the garden or greenhouse.

Lightweight to use, yet very powerful.

The outfit comprises: Solid brass pump, one adjustable nozzle, a long brass angle bend, 6½ft. plastic suction hose fitted with suction strainer and a bucket clip.

47/- COMPLETE

A 1, 2 or 3 gallon knapsack container can be supplied for use with this sprayer.

The following items can also be obtained:—

2ft. EXTENSION LANCE 9/- EACH

FLAT FAN JET

1965 CATALOGUE

DISCOUNT 33⅓%

Carriage paid on orders value £15 net

On items Nos. 30, 31, 36, 42 and 660 25% only (Carriage Paid)

Solo Sprayers Ltd

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KNAPSACK SPRAYERS

No. 29 "EASTWOOD" (3 gallon size)

The outfit comprises: Brass double - action pump, three nozzles (fine, medium and coarse), 2ft. extension lance, angle bend, three-gallon lead-coated sheet metal container, two adjustable shoulder straps, 4ft. plastic hose, internal valve and strainer.

Weight of complete outfit: 7½lb.
Weight of container empty: 5½lb.

132/- EACH

ADJUSTABLE NOZZLE — 7/6 EACH

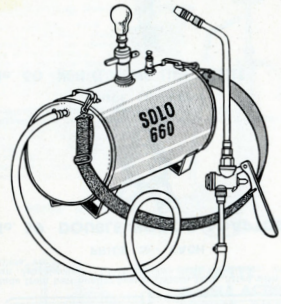
No. 44 "ACE" (1 and 2 gallon size)

The outfit comprises: Brass double-action pump, one adjustable nozzle, 12in. angle bend, a one- or two-gallon lead - coated sheet metal container or a one- or two-gallon polythene container, one adjustable shoulder strap, 3ft. plastic hose and internal strainer.

PRICES:	Metal Container	Plastic Container
1 Gall.	86/- EACH	77/- EACH
2 Gall.	98/- EACH	88/- EACH

SOLO 660

ONE GALLON PNEUMATIC SPRAYER



A pneumatic sprayer, simple and robust in design, for use with all insecticides. The 660 Sprayer is made from best quality brass sheet, it is light in weight and easy in operation. The bent extension lance is fitted with a trigger release control and the variable nozzle adjusts immediately to give a spray from very fine to long-range jet. The brass tank has a working capacity of one gallon and the outfit weighs 6½lb. The outfit comprises: Strong brass container, brass pump, 12in. bent extension lance, variable nozzle, trigger release control, 42in. best quality P.V.C. tubing, adjustable webbing strap, safety pressure valve.

2ft. EXTENSION LANCE 9/- FLAT FAN JET NOZZLE 6/-
(available if required)

PRICE 150/- EACH

ADAPTOR FOR USE WITH CAR TYRE PUMP 6/6

ACE 470

TWO GALLON PLASTIC KNAPSACK SPRAYER

WEIGHT 4LB. EMPTY

PRICE 95/- EACH

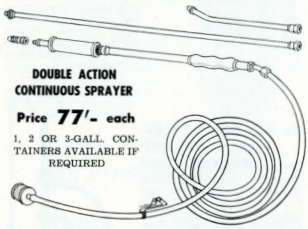
A handy, lightweight knapsack sprayer for use with all insecticides, fertilisers, weedkiller, etc. The ACE-470 outfit comprises a robust double-action Brass Pump, 24in. Extension Bend, a variable Nozzle which can be adjusted from very fine to long-range jet, a non-corrodible two-gallon Polythene Container with two adjustable plastic straps and 4ft. Plastic Suction Hose.

The following items can also be obtained:

FLAT FAN JET NOZZLE 6/- EACH

2ft. EXTENSION LANCE 9/- EACH

SOLOMISER — 80



DOUBLE ACTION CONTINUOUS SPRAYER

Price 77/- each

1, 2 OR 3-GALL. CONTAINERS AVAILABLE IF REQUIRED

The outfit comprises: Solid Brass Pump fitted with a Compression Chamber, which ensures a continuous spray. A variable Nozzle which adjusts instantly to any type of spray from fine mist to long range jet. 2ft. Brass Extension Lance for work above normal height, a 12in. Angle Bend for reaching underneath leaves, bushes, etc. 10ft. best quality P.V.C. Suction Tubing fitted with a brass non-return valve and strainer, a clip is also supplied to hold tubing in container. All parts of this sprayer are interchangeable, any part can be replaced by a spare at a moment's notice.

The following items can also be obtained:

3FT. EXTENSION LANCE — 14/- EACH

FLAT FAN JET NOZZLE — 6/- EACH

BUY ONLY A GUARANTEED SPRAYER

Solo Sprayers Ltd

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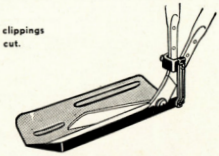
No. 51. EDGING SHEAR ATTACHMENT

Collects the clippings as you cut.



Price 6′- each

Supplied with adjustable clamp. Fits all types of Edging Shears.

No. 50. SOLO POCKET PRUNER

Made from finest Sheffield steel.
Chromium Plated.
Only 3½″ long.

Price 8′6 each

"EVERGREEN"

Stainless steel pricking out gardening tool.

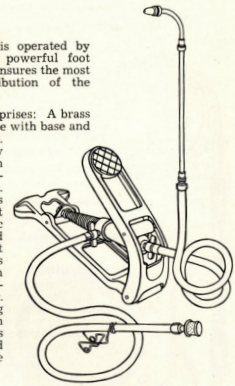
For pricking out seedlings. Also useful for removing weeds from lawns.

Price 3′3

No. 43 SOLO FOOT OPERATED SPRAYER

This sprayer is operated by an extremely powerful foot pump, which ensures the most efficient distribution of the insecticide.

The outfit comprises: A brass pump, complete with base and pedal. A 7ft. plastic delivery hose fitted with brass connections. The 7ft. suction hose is also of best quality plastic and is fitted with a bucket clip, a brass non-return valve and suction strainer. Two 16in. long brass extension lances, a brass angle bend and a nozzle are also supplied.



PRICE: 87′6 COMPLETE

The following items can also be obtained:—

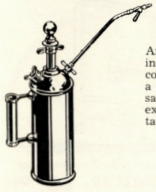
2ft. EXTENSION LANCE 9/- EACH
3ft. EXTENSION LANCE 14/- EACH
ADJUSTABLE NOZZLE 7/6 EACH

No. 36 'PROGRESS' PNEUMATIC SPRAYER

A first-class sprayer for all insecticides. The strong brass container is fitted with a removable pump, 42 inches of best quality P.V.C. hose, a trigger release, an 18in. bent extension lance. The specially made variable nozzle can be adjusted to give all variations from very fine to long-range jet by a turn of the thumb and finger. A safety pressure valve is also fitted.

PRICE: 2-GALL. **185′-**
PRICE: 3-GALL. **200′-**

No. 37 'SWIFT' PNEUMATIC HAND SPRAYER



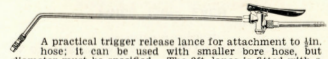
An excellent sprayer for all insecticides, with a polished copper container, fitted with a brass pump, automatic safety valve and a 10in. brass extension bend and shut-off tap. Four and six-pint size.

4 Pint **120′- EACH**

6 Pint **132′- EACH**

It is essential that the containers of all Sprayers should be thoroughly cleaned after use

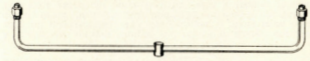
No. 57 TRIGGER RELEASE LANCE



A practical trigger release lance for attachment to ½in. hose; it can be used with smaller bore hose, but diameter must be specified. The 2ft. lance is fitted with a variable nozzle which gives a spray from fine to long-range jet. The unit can be used with power spray outfits.

PRICE 27/- EACH

No. 58 TWO-JET CROSS BOOM



Made from best quality brass. Width 18in., fitted with two Fan Jet Nozzles. Ideal for use with fertilisers, weed-killers, etc.

PRICE 20/- EACH

No. 59 DOUBLE NOZZLE ADAPTOR

Turned from solid brass. Fitted with two medium size nozzles. Suitable for spraying potatoes, etc.

PRICE 14/- EACH

No. 60 NON-CLOGGING LIME NOZZLE

Suitable for use with lime wash. A needle prevents the hole from becoming blocked.

PRICE 6/- EACH

Solo Sprayers Ltd

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KNAPSACK CONTAINERS

For use with Sprayers Nos. 27/28/80 and Nos. 29/44/44A

No. 39 —3 GALLON LEAD-COATED SHEET METAL CONTAINER

4ft. hose, two adjustable shoulder straps and internal fittings

Price **71/6** each

No. 46 —1 GALLON LEAD-COATED SHEET METAL CONTAINER

No. 46/A —2 GALLON LEAD-COATED SHEET METAL CONTAINER

includes adjustable shoulder strap, 4ft. hose and internal fittings

Price: 1 Gallon size **43/-**

2 Gallon size **55/-**

No. 46/P —1 GALLON PLASTIC CONTAINER

No. 46/AP—2 GALLON PLASTIC CONTAINER

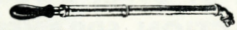
includes adjustable shoulder strap, hose and internal fittings

Price: 1 Gallon size **34/-**

2 Gallon size **45/-**

When ordering please state with which model the container is to be used

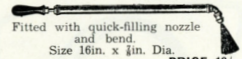
No. 32 "RAPID" GARDEN SYRINGE



Size 16in. x ⅞in. diameter. **PRICE 30/- EACH**

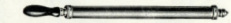
Fitted with quick-filling nozzle, giving a fine spray. A drip sleeve prevents any possibility of getting wet.

No. 41 "FLORA" GARDEN SYRINGE



Fitted with quick-filling nozzle and bend.
Size 16in. x ⅞in. Dia.
PRICE 18/- EACH

No. 40 THE MIDGET SYRINGE



Size 12in. x ⅞in diameter. **PRICE 15/0 EACH**
Fitted with Ball Valve Nozzle.

No. 33 POWDER SPRAYER

PRICES:
½lb. **6/6 EACH**
1lb. **27/- EACH**

Treated internally to resist corrosion. Two sizes: ½lb., 1lb.

No. 35/P
GREENHOUSE SPRAYER

Force Feed Brass Pump, fitted with fine strainer to prevent blockages in the nozzle. Container made from polythene. Capacity ½-pint.

PRICE 17/6 EACH

No. 45 PNEUMATIC TRIGGER RELEASE SPRAYER

All Plastic container with brass fittings. Working capacity 1½ pints. Quick trigger release action. Fine spray. Complete with 3in. bent lance.

47/6 EACH

No. 42 "UNION" LIME-WASHING AND SPRAYING PUMP

A strong brass continuous spraying pump with air chamber, an adjustable foot-rest, 42in. plastic hose, 15in. extension piece with lime-washing nozzle set at an angle for spraying underneath leaves, etc.

PRICE 91/6 EACH

No. 38
LAWN SPRINKLER

Strongly made of polished brass with Delrin stand. Fitted with tapered connection for hose. Will cover over 1,000 square ft.

PRICE 27/6 EACH

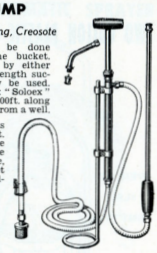
No. 30 SOLOEX DOUBLE ACTION SUCTION PUMP

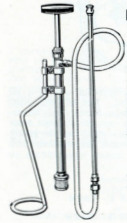
For Limewashing, Disinfecting, Creosote

The spraying work can be done at any distance from the bucket. Sprayer can be operated by either one or two persons. Any length suction or delivery hose may be used. Note the power of the pump: "Soloex" will draw the water up to 200ft. along the level ground or lift 25ft. from a well.

The outfit comprises: Brass pump, 4ft. delivery hose, 2ft. brass spraying lance, angle bend and one adjustable nozzle, 10ft. suction hose, brass strainer and bucket clip, and footrest of galvanised steel rod.

PRICE 80/-





No. 31 SOLOETTE DOUBLE ACTION BUCKET PUMP

For Limewashing, Creosoting, Disinfecting and all other spraying purposes. The outfit comprises: Brass pump with double-action ball valves, brass strainer, adjustable nozzle, 4ft. delivery hose with 2ft. brass spraying lance; footrest of galvanised steel rod, shaped for use with ordinary bucket.

PRICE 70/-

The following items can also be obtained:—

3ft. EXTENSION LANCE 14/-

FLAT FAN JET NOZZLE 6/-

Solo Sprayers Ltd

Leaflet 1972

"SOLO 760/S" STAINLESS STEEL COMPRESSION KNAPSACK SPRAYER

PRICE INCREASES

Current prices for all items in this leaflet are shown on the enclosed price list.

THESE PRICES CANCEL THOSE SHOWN IN THIS CATALOGUE

napsack Sprayer with a stainless steel des continuous high pressure spraying, d with the minimum of pumping. The lter. The container is easy to fill and ghtforward operation. The adjustable ntrol from fine spray to penetrating jet.

SOLO SPRAYERS LTD.
SOLO WORKS BRUNEL ROAD
LEIGH-ON-SEA ESSEX SS9 5JN

Specifications:

Container	Corrosion free Stainless Steel
Capacity	Normal working capacity 3½ gallons
Weight	12½lbs. empty
Dimensions	16in. x 8in. x 13in.
Compression Cylinder and Pump	Piston-type of Stainless Steel
Delivery Hose	4ft. P.V.C. Hose
Spray Lance and Trigger Valve	Instant action brass control valve and 2ft. brass extension lance with 45° bend
Nozzle	Adjustable
Shoulder Straps	Plastic fully adjustable

SOLO PNEUMATIC SPRAYERS

No. 360/1 £11.00 Complete

Total Capacity	1½ imp. gallons
Working Capacity	1½ imp. gallons
Working Pressure	70 lbs./sq. in.
Weight Empty	9 lbs.

No. 360/2 £14.50 Complete

Total Capacity	3 imp. gallons
Working Capacity	2 imp. gallons
Working Pressure	85 lbs./sq. in.
Weight Empty	12½ lbs.

Both models with container of premium quality mild steel protected against corrosion internally by a special plastic coating, outside provided with a special stove enamel.
Best quality material and special treatment offer durability and excellent performance.
Superior construction for security and simple but comfortable operation.

Special Features
Easy filling through funnel shaped opening.
Trigger controlled valve for one hand operation.
Built in air pump of seamless brass. Pumping is easy, the container can be charged in 2 minutes. One charging will spray all the contents of the container. No pumping whilst spraying.

STANDARD EQUIPMENT
Pressure gauge: Working pressure marked in red.
Safety valve: To prevent overpumping.
42" Best quality plastic hose. Trigger controlled valve. Brass extension bend with adjustable nozzle: 2ft. with 2 Gal. Outfit, 18" with 1 Gal. Outfit.

SOLO pneumatic Sprayers are especially useful for the efficient application of insecticides, fungicides, fertilisers and weedkillers in agriculture and horticulture; they can also be used for whitewashing, disinfecting and for many other industrial uses.
We do not recommend this Sprayer for use with Sulphuric Acid, bordeaux mixture, copper based fungicides or creosote.

We can offer two similar Sprayers with **STAINLESS STEEL** Container. 1 Gallon size £15.25, 2 Gallon size 23.00.

"SOLO 760" COMPRESSION KNAPSACK SPRAYER

RELIABLE

EASY TO OPERATE

MINIMUM OF MAINTENANCE

PRICE £16.00 COMPLETE

A reliable modern compression Knapsack Sprayer with a high density polythene container. The SOLO 760 provides continuous high pressure spraying, up to 85lbs. p.s.i. can be obtained with the minimum of pumping. The 4in. filling hole is fitted with a filter. The container is easy to fill and washing out after use is a straightforward operation. The adjustable nozzle allows a finger-tip spray control from fine spray to penetrating jet.

Specifications:

Container	High density polythene
Capacity	Normal working capacity 3½ gallons
Weight	12lbs. empty
Dimensions	19in. High x 12in. x 6in.
Lid	Large circular snap-on lid
Compression Cylinder and Pump	Piston type of brass
Delivery Hose	4ft. P.V.C. hose
Spray Lance and Trigger Valve	Instant action brass control valve and 2ft. brass extension lance with 45° bend
Nozzle	Adjustable
Shoulder Straps	Plastic fully adjustable

"SOLO 460" EASY SPRAY

PRICE £4.55

A lightweight pressure Sprayer with a tough chemically resistant container, the new style pump handle has a locking device for easy carrying. The long reach hose and extension bend is fitted with a thumb operated on/off control, which enables the user to spray entirely with one hand. Nozzle adjusts from mist to powerful jet. Weight empty 3 lbs.

Extra straight extension lance 60p.

Carrying strap 25p.

Solo Sprayers Ltd

Leaflet 1972

COMPRESSION SPRAYER

STRONG - RELIABLE - SIMPLE

EASY TO PUMP

FOR ALL SPRAYING WORK

PRICE £12·50 COMPLETE

A light modern compression Sprayer with a stainless steel container. The SOLO 860/S provides continuous high pressure spraying, up to 90 lbs. p.s.i. can be obtained with the minimum of pumping. The filling hole is fitted with a filter. The container is easy to fill and washing out after use is a straightforward operation. To operate: pump to maximum pressure, commence spraying, it is then necessary to pump occasionally to maintain the pressure.

Specifications:

Container	Corrosion free Stainless Steel
Capacity	Normal working capacity 1½ gallons
Weight	5½ lbs. empty
Dimensions	13" High x 11" x 5"
Compression Cylinder and Pump	Piston-type of Stainless Steel
Delivery Hose	3ft. P.V.C. Hose
Spray Lance and on/off tap	Instant action tap and extension lance
Nozzle	Medium cone
Shoulder Strap	Plastic fully adjustable with snap hooks

PRICE £1.50 EACH

Made from best quality brass. Width 18in. fitted with two fan jet nozzles. Ideal for use with fertilisers, weedkillers, etc.

No. 59 DOUBLE NOZZLE ADAPTOR

PRICE £0.80 EACH

Turned from solid brass. Fitted with two medium size nozzles. Suitable for spraying potatoes, etc.

No. 60 NON-CLOGGING LIME NOZZLE

PRICE £0.60 EACH

Suitable for use with lime wash. A needle prevents the hole from becoming blocked.

No. 61 FAN SPRAY NOZZLE

PRICE £0.48 EACH

Ideal for spraying selective weedkillers, fertilisers, etc.

3ft. Extension lance **£1.15** 2ft. Extension lance **£0.80**

Extra hose to enable No. 360 to be operated from the ground **12p per ft.**

The accessories are not suitable for No. 460 prayer.

SOLO SPRAYERS LTD.

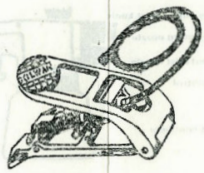
Solo Works, Brunel Road, Leigh-on-Sea, Essex SS9 5JN

Telephone Southend-on-Sea 525740

Printed by Taylors Printers, Stock Road, Southend-on-Sea

SPECIAL OFFER

A strongly made foot-operated pump outfit as illustrated, for use with standard sprayers Nos. 27/28/30/31/80/81.



The outfit comprises:– A brass pump with a strongly made foot operated chassis, 7 ft. delivery hose with union for connection to standard extension lances or nozzles.

PRICE £2.00

CARRIAGE PAID. CASH WITH ORDER.

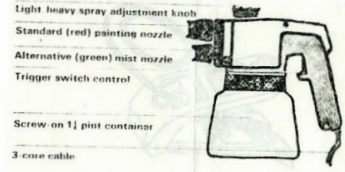
SOLO SPRAYERS LTD., SOLO WORKS,

PROGRESS ROAD, SOUTHEND-ON-SEA.

SPECIAL OFFER

WITHDRAWN

Electric Spray



230/250 volts

You can spray most paints, emulsion, enamels, lacquers etc. This sprayer will also spray insecticides, weedkillers etc.

PRICE £4.00

Carriage paid. Cash with order.

from

SOLO SPRAYERS LTD.

Solo Works, Progress Road, Southend-on-Sea

Solo Sprayers Ltd

Price List 1972

PRICE LIST

No. 27	"Solo" Sprayer	£4.68
No. 28	"Gardener" Sprayer	£3.64
No. 29	"Eastwood" Sprayer	£9.36
No. 30	"Soloex" Pump	£6.00
No. 31	"Soloette" Pump	£5.10
No. 35	Greenhouse Sprayer	£1.24
No. 41	"Flora" Syringe	£1.78
No. 42	Union Pump	£7.75
No. 44/P	"Ace" 1 gal. Sprayer	£4.05
No. 44/AP	"Ace" 2 gal. Sprayer	£4.65
No. 45	Pneumatic 2pt.	£2.90
No. 57	Trigger Lance	£2.50
No. 64	Syphon Pump	£0.50
No. 80	"Solomiser" Sprayer	£5.46
No. 81	"Star" Sprayer	£2.34
No. 88	"Star-Pack" Sprayer	£3.30
No. 90	Mini-Spray	£2.50
No. 91	Speedy Spray	£2.00
No. 460	Easy Spray	£4.55
No. 470	"Ace" 2 gal. Sprayer	£5.15
No. 58	Boom	£1.65
No. 59	Double Nozzle	£0.85
No. 60	Lime Nozzle	£0.65
No. 61	Fan Nozzle	£0.50
	3ft. Lance	£1.28
	2ft. Lance	£0.88
	18" Lance	£0.74

Operative from 1.9.72.

THESE PRICES CANCEL
THOSE SHOWN IN THIS
CATALOGUE

SOLO SPRAYERS LTD
SOLO WORKS BRUNEL ROAD
LEIGH-ON-SEA ESSEX SS9 5JN

Solo Sprayers Ltd

Catalogue 1972 - Page 1/2

STAR N.

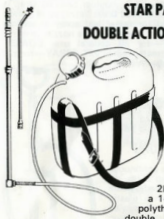
DOUBLE ACTION SPRAYER

Lightweight, easy to use double action sprayer, comprising brass pump, 12in. angle bend with adjustable nozzle, 8ft. plastic suction tubing, bucket clip and filter.

PRICE
£2.15
EACH

STAR PACK No. 88

DOUBLE ACTION SPRAYER



The STAR-PACK is an efficient light-weight portable Garden Sprayer suitable for use with all Insecticides, Weedkillers and Fertilizers. Weight empty 2lb. Fitted with a 1-gall. capacity polythene container, double action brass pump, 12-inch extension bend and adjustable nozzle, it is a popular machine for all garden or greenhouse spraying.

PRICE £3.30 COMPLETE

18in. EXTENSION LANCE £0.70 EACH

GARDENER No. 28

DOUBLE ACTION SPRAYER

Unbeatable for use in the garden or greenhouse.

Lightweight to use, yet very powerful.

The outfit comprises: Solid brass pump, one adjustable nozzle, a long brass angle bend, 8½ft. plastic suction hose fitted with suction strainer and a bucket clip.

PRICE
£3.30
COMPLETE

2ft. EXTENSION LANCE £0.80 EACH

A 1, 2 or 3 gallon knapsack container can be supplied for use with this sprayer

BUY ONLY A GUARANTEED SPRAYER

SOLO SPRAYERS LTD.

Solo Works . Brunel Road
Leigh-on-Sea . Essex SS9 5JN

Tel. Southend-on-Sea 525740

SOLO

Current prices for all items in this leaflet are shown on the enclosed price list.

SPRAYERS

ACE 470—2 GALLON KNAPSACK SPRAYER

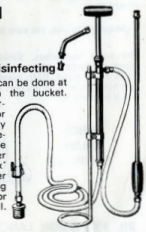
A handy, lightweight knapsack sprayer for use with all insecticides, fertilisers, weedkillers, etc. The ACE 470 comprises a robust double-action brass pump, 18in. extension bend, a variable nozzle which can be adjusted from very fine to long-range jet, a non-corrodible two-gallon polythene container with two adjustable plastic straps and 4ft. plastic suction hose. Weight empty 4lb.

PRICE £5.15 EACH

No. 30 SOLOEX

DOUBLE ACTION SUCTION PUMP

for Creosote Limewashing, Disinfecting



The spraying work can be done at any distance from the bucket. Sprayer can be operated by either one or two persons. Any length suction or delivery hose may be used. Note the power of the pump: 'Soloex' will draw the water up to 200ft. along the level ground or lift 25ft. from a well.

The outfit comprises: Brass pump, 4ft. delivery hose, 2ft. brass spraying lance, angle bend and one adjustable nozzle, 10ft. suction hose, strainer and bucket clip, and footrest of galvanised steel rod.

PRICE £5.00 EACH

No. 31 SOLOETTE

DOUBLE ACTION BUCKET PUMP

For limewashing, creosoting, disinfecting and all other spraying purposes. The outfit comprises: Brass pump with double-action ball valves, brass strainer, adjustable nozzle, 4ft. delivery hose with 2ft. brass spraying lance; footrest of galvanised steel rod, shaped for use with ordinary bucket.

PRICE £4.65 EACH

No. 90 THE SOLO MINI SPRAY

PRICE £2.50 EACH

The Solo Mini Spray is a lightweight, portable, precision-made sprayer of attractive design with a special appeal to lady gardeners who find the smooth pump action delightful to use. The Mini Spray is invaluable for all small specialist spraying jobs and is suitable for garden and greenhouse. The half-gallon translucent plastic container, with adjustable shoulder carrying strap is fitted with an improved brass action pump, brass extension bend for under leaf spraying and an adjustable nozzle. The adjustable nozzle controls: MIST SPRAY—for all general use. COARSE SPRAY—for greater reach. JET SPRAY—for tall trees and shrubs. WEIGHT: 1lb.

No. 42 "UNION" LIME WASHING AND SPRAYING PUMP

A strong brass continuous spraying pump with air chamber, an adjustable footrest, 42in. plastic hose, 15in. extension piece with lime-washing nozzle set at an angle for spraying underneath leaves, etc.

PRICE £7.00 EACH

The following items can also be obtained for use with these sprayers: **3ft. Extension Lance £1.15 Flat Fan Jet Nozzle £0.48**

Solo Sprayers Ltd

Catalogue 1972 - Page 3/4

No. 91 SOLO SPEEDY SPRAY

SIMPLE
EASY TO USE
PRICE £2.00
COMPLETE

This 4 pint easy to use all purpose sprayer is ideal for spraying rose bushes, seedlings, all plants, wetting wall paper prior to stripping, disinfecting and spraying budgerigars. The sprayer is trigger operated and provides a convenient method of application of liquids for any job. The adjustable nozzle delivers a range of sprays from fine mist to powerful jet stream. Will not rust or corrode.

No. 64 SYPHON PUMP

Made from High-Grade Polyethylene

Inexpensive — Efficient — Durable

SYPHON or PUMP at will

Empties or fills.
Oil, acid and alkali proof.
For all liquids, petrol, paraffin, water chemicals, light oils, etc.

Used by thousands for:
Filling motor mowers
Outboard motors
Garden sprayers
Winemaking
Aquariums
Camping
Dispensing, etc.

CAPACITY SEVEN PINTS PER MINUTE

ONLY £0.40 EACH

No. 35 GREENHOUSE SPRAYER

Forced feed brass pump, fitted with fine strainer to prevent blockages in the nozzle. Container made from polythene. Capacity ½ pint.

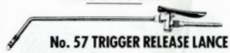
PRICE £1.15 EACH

No. 41 "FLORA" GARDEN SYRINGE

Fitted with quick-filling nozzle and bend. Size 16in. x ⅛in. dia.

PRICE £1.70 EACH

No. 57 TRIGGER RELEASE LANCE



A trigger release unit for attachment to ⅛in. hose. The 2ft. Lance is fitted with an adjustable nozzle. It can be adapted to smaller bore hose, but diameter must be specified.

PRICE £2.25 EACH

No. 45 PNEUMATIC TRIGGER RELEASE SPRAYER

All plastic container and pump. Working capacity 2 pints. Quick trigger release action. Fine spray. Complete with 3in. bent lance.

PRICE £2.70 EACH

SOLO 460 EASY SPRAY

A lightweight pressure Sprayer with a tough, chemically resistant container, the new style pump handle has a locking device for easy carrying. The long reach hose and extension bend is fitted with a thumb operated on/off control, which enables the user to spray entirely with one hand. Nozzle adjusts from mist to powerful jet. Weight empty 3lbs.

Extra Straight Extension Lance 60p

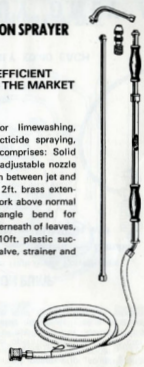
Carrying Strap 25p

PRICE £4.55 EACH

BUY ONLY A *SOLO* GUARANTEED SPRAYER

SOLO No. 27 DOUBLE ACTION SPRAYER

THE MOST EFFICIENT SPRAYER ON THE MARKET

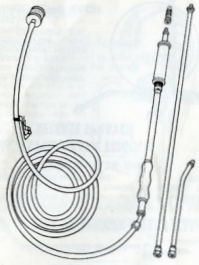


Indispensable for limewashing, creosoting, insecticide spraying, etc. The outfit comprises: Solid brass pump, an adjustable nozzle giving a variation between jet and very fine spray, 2ft. brass extension lance for work above normal height, brass angle bend for reaching the underneath of leaves, branches, etc.; 10ft. plastic suction hose with valve, strainer and bucket clip.

PRICE £4.38 COMPLETE

A 1, 2 or 3 gallon knapsack container can be supplied for use with this sprayer.

SOLOMISER 80 DOUBLE ACTION CONTINUOUS SPRAYER



The outfit comprises: Solid brass pump fitted with a compression chamber, which ensures a continuous spray; a variable nozzle which adjusts instantly to any type of spray from fine mist to long-range jet; 2ft. brass extension lance for work above normal height; a 12in. angle bend for reaching underneath leaves, bushes, etc.; 10ft. best quality P.V.C. suction tubing fitted with a non-return valve and strainer (a clip is also supplied to hold tubing in container). All parts of this sprayer are interchangeable.

PRICE £5.00 EACH

No. 29 "EASTWOOD" KNAPSACK SPRAYER

3 gallon size
The outfit comprises: Brass double action pump, 18in. lance and 18in. angle bend, an adjustable nozzle, giving a variation between jet and very fine spray, 3-gallon lead-coated sheet metal container, two adjustable shoulder straps, 4ft. plastic hose, internal valve and strainer.
Weight of complete outfit: 7½lb.
Weight of container empty: 5½lb.

PRICE £8.80 EACH

No. 44 "ACE" KNAPSACK SPRAYER

(1 and 2 gallon size)

The outfit comprises: Brass double action pump, one adjustable nozzle, 12in. angle bend, a one- or two-gallon polythene container, one adjustable shoulder strap, 3ft. plastic hose and internal strainer.

PRICES: 1 Gall. £3.90 EACH
2 Gall. £4.65 EACH

The following items can also be obtained for use with these sprayers: **3ft. Extension Lance £1.15 Flat Fan Jet Nozzle £0.48 Non-Clogging Lime Nozzle £0.60 Two Jet Cross Boom £1.50 Double Nozzle Adaptor £0.80**

Solo Sprayers Ltd

Instruction Leaflet 1972

KEEP THIS SHEET FOR REFERENCE

MADE IN ENGLAND — The GARDENER SPRAY PUMP — MADE IN ENGLAND

DIRECTIONS

OIL YOUR SPRAYER BEFORE AND AFTER USE

To commence spraying drop the foot strainer at the end of the hose into the bucket containing the liquid, hold the sprayer by the two wood grips and push the back-hand backwards and forwards. Spraying will commence almost immediately.

For spraying underneath the foliage or in awkward and difficult situations attach the angle bend.

For a fine spray use nozzle marked MIST and for a coarse spray use nozzle marked LIME.

If a plain jet is required for window or car washing unscrew the rotar in the nozzle marked LIME.

When using lime or other wash containing matter in suspension adjust wire clip on the hose so that the foot strainer is about 1 inch from the bottom of the bucket otherwise sediment may be drawn up.

If the foot strainer (No. F.17) becomes coated over or a piece of grit stops up the hole in the nozzle (No. F.1) either will stop the sprayer from functioning. In the first case the filter surface must be freed; in the second case the nozzle must be removed and the rotar (No. F.2) taken out and both cleaned.

If the sprayer only pumps on one stroke, clean valves Nos. F.5 and F.13.

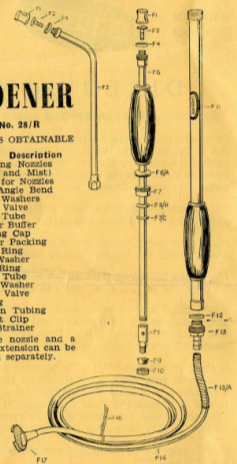
SOLO SPRAYERS, LTD.

Solo Works, Progress Road, Southend-on-Sea, Essex

Tel. Southend-on-Sea 525740

IMPORTANT

Always pump clean water through your sprayer after use otherwise it will become difficult to work or even become so gummed up that it will have to be taken to pieces and cleaned.



GARDENER

Model No. 28/R

SPARE PARTS OBTAINABLE

Item No.	Description
F.1	Spraying Nozzles (Lime and Mist)
F.2	Rotar for Nozzles
F.3	12in. Angle Bend
F.4	Fibre Washers
F.5	Inner Valve
F.6	Inner Tube
F.6/A	Rubber Buffer
F.7	Packing Cap
F.R/H	Rubber Packing
F.7/C	Brass Ring
F.9	Cup Washer
F.10	Lock Ring
F.11	Outer Tube
F.12	Fibre Washer
F.13	Outer Valve
F.13/A	Spring
F.14	Suction Tubing
F.16	Bucket Clip
F.17	Foot Strainer

An adjustable nozzle and a 2ft. straight extension can be purchased separately.

Sole Manufacturers: SOLO SPRAYERS, LTD.
Solo Works, Progress Road, Southend-on-Sea, Essex
Telephone: Southend-on-Sea 525740

For Repairs, Overhauling or Spare Parts send to your supplier or direct to manufacturers

Other accessories, including knapsack, can be purchased. Ask for details.

Solo Sprayers Ltd

Leaflet circa 1973

No. 70 KILLER KANE

SPOT WEED AND INSECT KILLER

The simplest way to rid your lawn of all types of weeds and insects. Destroys dandelions, plantains, chickweed, poison ivy, poison oak, nettles, thistles with only one application. Just fill the Kane with water and drop in one Killer Kane tablet, adjust the nozzle for the size of spray required and place the tip of the Killer Kane on the weed, push down and release quickly. Absolutely no effect on surrounding flowers and shrubs. Eliminates all stooping, bending and digging. One filling kills hundreds of weeds quickly, effectively and economically.

Price of Killer Kane with one tube of sixteen tablets **£1.95**

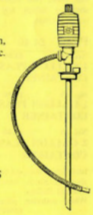
Refill tube of sixteen tablets **£0.45**

No. 64 SYPHON PUMP

Made from High-Grade Polyethelene

Inexpensive — Efficient — Durable
SYPHON or PUMP at will

Empties or fills.
Oil, acid and alkali proof.
For all liquids, petrol, paraffin, water chemicals, light oils, etc.
Used by thousands for:—
Filling motor mowers
Outboard motors
Garden sprayers
Winemaking
Aquariums
Camping
Dispensing, etc.
CAPACITY SEVEN PINTS PER MINUTE



Only £0.50 each

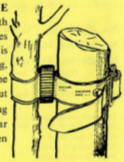
No. 50 SOLO POCKET PRUNER

Made from finest Sheffield steel.
Only 3¼in. long. Chromium plated.

Price £0.85 each

RAINBOW TREE TIES

RAINBOW TREE TIES . . . stretch with the growth of the trees —the encircling strap is flexible and expanding, allowing freedom for the tree to grow without strangling or scarring the trunk. Spacing collar prevents chafing between tree and stake.



No. 65 ROSE TREE TIES 10in. x ¼in.
Price **20p** per pack of four

No. 66 STANDARD TREE TIES 18in. x 1in.
Price **18p** per pack of two

No. 69 PLANT LABELS

Pure white plastic labels indestructible and completely weather-proof. Punched holes enables label to be used as a tie-on for roses, etc., or it has a pointed tip for putting in ground or pot.

100 x 4in. **LABELS** 24p
75 x 5in. **LABELS** 24p

No. 71 MARKER PENS

Especially suitable for above plant labels. Durable and weatherproof.

Price 15p each

Current prices for all the items in this leaflet are shown on the enclosed price list.

No. 91	Speedy Spray	£2.00
No. 88	Solo "Star-Pack" 1-gallon Knapsack Sprayer	£3.30
No. 44P	"Ace" 1-gallon Knapsack Sprayer	£4.05
No. 44AP	"Ace" 2-gallon Knapsack Sprayer, plastic container	£4.65
No. 470	"Ace" 2-gallon plastic Knapsack Sprayer	£5.15
No. 41	"Flora" Syringe	£1.78
No. 45	Plastic Hand Pneumatic, 2-pint	£2.90
No. 460	1-Gallon Plastic Pressure Sprayer	£4.55
No. 860/s	2-gallon Stainless Steel Compression Sprayer	£12.50
No. 360/1	1-gallon Pneumstic Sprayer	£12.30
No. 360/2	2-gallon Pneumatic Sprayer	£15.75
No. 360/1s	1-gallon Stainless Steel Pneumatic Sprayer	£16.60
No.360/2s	2-gallon Stainless Steel Pneumatic Sprayer	£25.00
No. 360/P	1-gallon Plastic Pneumatic Sprayer	£9.00
No. 760/P	Compression Plastic Knapsack Sprayer	£17.50
No. 760/S	Compression Stainless Steel Knapsack Sprayer	£20.95
No. 30	"Solonx" Suction Pump	£6.00
No. 31	"Soloette" Bucket Pump	£5.10
No. 42	"Union" Lime-washing Pump	£7.75
No. 35	Greenhouse Sprayer	£1.24
No. 330	Baby Hand Duster	£4.00
No. 43	Foot-operated Sprayer	£4.20
No. 57	Trigger Release Lance	£2.50
No. 58	Two-Jet Cross Boom	£1.65
No. 59	Double Nozzle Adaptor	£0.85
No. 60	Non-clogging Lime Nozzle	£0.65
No. 61	Fan Spray Nozzle	£0.50
No. 64	Syphon Pump	£0.50

For Repairs, Overhauling or Spare Parts send to Sole Manufacturers:

Our office is open from 8 a.m. to 5.30 p.m. Monday to Friday. Why not call for a demonstration of any model.

SOLO SPRAYERS LTD.

Solo Works, Brunel Road, Progress Road, Leigh-on-Sea, Essex SS9 5JN.

Tel.: Southend-on-Sea 0702 525740

No. 27 "SOLO" SPRAYER
No. 29 "EASTWOOD" SPRAYER
No. 80 "SOLOMISER" SPRAYER

Item No.	Description	Price
	Complete Set of Washers	£0.23 set
6	Inner Tube only	£1.50 each
6A	Buffer	£0.05 each
7	Packing Cap	£0.20 each
10	Outer Tube only	£1.68 each
11	Screwed Ring	£0.07 each
13	Inner Valve	£0.30 each
14	Cup Washers	£0.30 ten
15/16	Brass Ring and Lock Nuts	£0.11 set
17/18	Outer Valve	£0.44 each
19/21	Hose Nut and Liner	£0.20 set
23	Bucket Clip	£0.10 each
24/25/27	Foot Valve and Strainer, Brass	£0.68 each
25/P	Foot Valve and Strainer, Plastic	£0.28 each

No. 27/Mk. 11 "SOLO" SPRAYER
No. 29/Mk. 11 "EASTWOOD" SPRAYER
No. 80/Mk. 11 "SOLOMISER" SPRAYER

Item No.	Description	Price
7/0	Packing Cap	£0.20 each
8/0	Gland "O" Seal	£0.35 ten
7/C	Brass Facing Washer	£0.05 each
13/0	Inner Valve	£0.30 each
14/0	Valve "O" Seal	£0.35 ten

No. 81 "STAR" SPRAYER
No. 88 "STAR-PACK" SPRAYER
No. 90 "MINI" SPRAY

Item No.	Description	Price
	Complete Set of Washers	£0.20 set
801/805	Inner Tube only	£0.65 each
806	Packing Cap	£0.10 each
807/808	Packing Cap "O" Ring and Brass Washer	£0.10 set
809	Spring	£0.05 each
810/813	Inner Valve complete	£0.20 each
813	Inner Valve "O" Ring	£0.35 ten
814/816	Outer Tube only	£0.90 each
818/820	Outer Valve complete	£0.24 each

No. 41 SYRINGE

Cup Washers		£0.05 each
Nozzle, complete		£0.50 each

No. 470 "ACE" SPRAYER

Item No.	Description	Price
	Complete Set of Washers	£0.23 set
F5	Inner Valve	£0.23 each
F6	Inner Tube only	£0.90 each
F6/A	Buffer	£0.05 each
F7	Packing Cap	£0.20 each
F8/0	Rubber Packing	£0.35 ten
F7/C	Brass Facing Washer	£0.05 each
F9	Cup Washers	£0.30 ten
F10	Lock Rings	£0.10 set
F11	Outer Tube only	£1.10 each
F12/13	Outer Valve	£0.36 each
F16	Bucket Clip	£0.10 each
F17	Foot Valve and Strainer, Brass	£0.68 each
F17/P	Foot Valve and Strainer, Plastic	£0.28 each

No. 28/Mk. 11 "GARDENER" SPRAYER
No. 44P and 44AP Mk. 11 "ACE" SPRAYER

No. 470/Mk. 11 "ACE" SPRAYER

F8/0	Gland "O" Seal	£0.35 ten
F5/0	Inner Valve	£0.23 each
F9/0	Valve "O" Seal	£0.35 ten

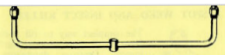
The following accessories can be used with all Solo models. Please state Sprayer number when ordering.

12in. Angle Bend	£0.56 each
18in. Straight Lance	£0.74 each
24in. Straight Lance	£0.88 each
18in. Bent Lance	£0.77 each
24in. Bent Lance	£0.91 each
36in. Straight Lance	£1.28 each
SOLO OIL	£0.20 bot.
Coarse, Medium or Mist Nozzle, complete	£0.25 each
Rotor for above Nozzle	£0.12 each
Adjustable Nozzle	£0.45 each
¼in. Bore Hose for Sprayers	£0.06 foot
½in. Bore Hose for Pneumatics, etc.	£0.12 foot

No. 59 DOUBLE NOZZLE ADAPTOR

Turned from solid brass. Fitted with two medium size nozzles. Suitable for spraying potatoes, etc.

PRICE £0.85 EACH



Made from best quality brass. Width 18in. Fitted with two fan jet nozzles. Ideal for use with fertilisers, weed-killers, etc.

PRICE £1.65 EACH

No. 60 NON-CLOGGING LIME NOZZLE

Suitable for use with lime wash. A needle prevents the hole from becoming blocked.

PRICE £0.65 EACH

No. 61 FAN SPRAY NOZZLE

Ideal for spraying selective weedkillers and fertilisers, etc.

PRICE £0.50 EACH

KNAPSACK CONTAINERS

For use with Sprayers Nos. 27/28/80/81 and Nos. 29/44/470/88

No. 39
3 GALLON LEAD-COATED SHEET METAL CONTAINER

4ft. hose, two adjustable shoulder straps and internal fittings.

Price £4.40 each

No. 46 £1.00 each
¼ GALLON PLASTIC CONTAINER

No. 47 £1.50 each
1 GALLON PLASTIC CONTAINER

No. 48 £2.00 each
2 GALLON PLASTIC CONTAINER

Includes adjustable shoulder strap, hose and internal fittings.

When ordering please state with which model the container is to be used.

Solo Sprayers Ltd

Price List 1974

SPARE PARTS PRICE LIST

No. 27-29-80 SPARYERS

Item	Description	Price
	Complete set of washers	0.25
6	Inner Tube only	1.65
6A	Buffer	0.08
7	Packing Cap	0.26
8/8B	Packing Washers per set	0.04
9	Brass Loose Ring	0.05
10	Outer Tube only	1.85
11	Screwed Ring	0.13
13	Inner Valve	0.46
14	Cup Washer for ten	0.38
15/16	Brass Ring & Lock Nuts per set	0.18
17/18	Outer Valve	0.99
19/21	Hose Nut & Liner	0.37
23	Bucket Clip	0.11
25/27	Foot Valve & Strainer Brass	1.10
25/P	Foot Valve & Strainer Plastic	0.40

Mk.2 No. 27-29-80 SPRAYERS

7/0	Packing Cap	0.30
8/0	Gland "O" Seal for ten	0.39
7/C	Brass Facing Washer	0.06
13/0	Inner Valve	0.46
14/0	Valve "O" Seal for ten	0.44

No. 28-44P-44AP-470 SPRAYERS

	Complete Set of Washers	0.25
F5	Inner Valve	0.38
F6	Inner Tube only	1.37
F6/A	Buffer	0.07
F7	Packing Cap	0.30
F8/0	Rubber Packing for ten	0.44
F7/C	Brass Facing Washer	0.06
F9	Cup Washer for ten	0.38
F10	Lock Rings set of two	0.11
F11	Outer Tube only	1.81
F12/13	Outer Valve	0.64
F16	Bucket Clip	0.11
F17	Foot Valve & Strainer Brass	1.10
F17/P	Foot Valve & Strainer Plastic	0.40

Mk.2 No. 28-44P-44AP-470 SPRAYERS

F8/0	Gland "O" Seal for ten	0.44
F5/0	Inner Valve	0.38
F9/0	Valve "O" Seal for ten	0.38

No. 81-88-90 SPRAYERS

Item	Description	Price
	Complete set of washers	0.22
804	Inner Tube only	0.88
806	Packing Cap	0.22
807	Packing Cap "O" Ring for ten	0.38
808	Brass Washer	0.06
809	Spring	0.07
810	Inner Valve complete	0.25
813	Inner Valve "O" Ring for ten	0.40
815	Outer Tube only	1.10
817	Outer Valve complete	0.33

No. 41 Syringe

	Cup Washers	0.07
	Nozzle Complete	0.60
	Insert for Nozzle	0.30

The following accessories can be used with all SOLO models. Please state Sprayer number when ordering.

	12" Angle Bend	0.84
	18" Straight Lance	1.10
	24" Straight Lance	1.15
	18" Bent Lance	1.10
	24" Bent Lance	1.15
	36" Straight Lance	1.65
	Coarse, Medium or Mist Nozzle complete	0.44
	Rotor for above nozzle	0.18
	Adjustable Nozzle	0.60
	¼" Bore Hose for Sprayers per ft.	0.08
	3/8" Bore Hose for Pneumatics etc. per ft.	0.14
49	3 Gal. Plastic Container	11.09
46	½ Gal. Plastic Container	1.10
47	1 Gal. Plastic Container	1.72
48	2 Gal. Plastic Container	2.20
58	Two Jet Cross Boom	1.87
59	Double Nozzle	0.99
60	Non Clogging Lime Nozzle	0.99
61	Fan Spray Nozzle	0.66
379	Double Swivel Nozzle	2.03
381	Fork Attachment Nozzle	1.59
391	Spray Shields per set of three	3.41
	Size "O" only	1.43
	Size "A" or "B" only	0.99
369	Telescopic Lance	3.74

Details of other sprayer parts available on request

ALL PRICES INCLUDE V.A.T. AND CARRIAGE

SOLO SPRAYERS ITD, BRUNEL ROAD, LEIGH-ON-SEA, ESSEX, SS9 5JN

Solo Sprayers Ltd

Price List 1974

REF NO:	DESCRIPTION 14.5.1974	PRICE
27	SOLO Sprayer	6.49
28	GARDENER Sprayer	4.40
80	SOLOMISER Sprayer	6.97
81	STAR Sprayer	3.37
29/P	EASTWOOD 3 Gallon Plastic Knapsack Sprayer	16.94
88	STARPACK 1 Gallon Plastic Knapsack Sprayer	4.77
44P	ACE 1 Gallon Plastic Knapsack Sprayer	5.56
44AP	ACE 2 Gallon Plastic Knapsack Sprayer	5.87
470	ACE 2 Gallon Plastic Knapsack Sprayer	6.05
41	FLORA Syringe	2.48
43	Foot Operated Sprayer	4.40
35	GREENHOUSE Sprayer	1.63
550	1 Pint Trigger Spray	0.95
45	Plastic Hand Pneumatic 2 Pint Sprayer	3.63
260	Brass Hand Pneumatic 2 Pint Sprayer	3.30
91	SPEEDY Spray	2.36
460	(1 Gallon Plastic Pressure Sprayer	5.06
	(Extra Straight Extension Lance	0.75
	(Carrying Strap	0.38
360/1G	1 Gallon Mild Steel Pneumatic Sprayer	19.80
360/2G	2 Gallon Mild Steel Pneumatic Sprayer	25.74
360/1SG	1 Gallon Stainless Steel Pneumatic Sprayer	27.34
360/2SG	2 Gallon Stainless Steel Pneumatic Sprayer	37.07
360/P	(1 Gallon Plastic Pneumatic Sprayer	12.32
	(3ft. Extension Lance for No:360/P	1.87
760/PG	Plastic Compression Knapsack Sprayer	28.60
760/SG	Stainless Steel Compression Knapsack Sprayer	34.82
42	UNION Lime Washing Pump	10.74
330	BABY Hand Duster	4.40
33	POWDER Sprayer ½ lb. size	0.88
	1 lb. size	4.40
50	Pocket Pruner	1.45
57	Trigger Release Lance	3.85
57/A	Border Watering Lance	4.40
62	KWIK TIE per pack of 20	0.25
63	Watering Can ½ Litre Copper	3.03
	2 Litre Brass	5.89
77	Watering Can 2 Pint Plastic	0.51
64	Syphon Pump	0.81
67	Car Wash Brush for use with 460/360/P	3.28
70	Killer Kane	2.20
	Refill for above	0.50
73	Plant Support per pack of three	0.83
65	Rose Tree Ties	0.29
66	Standard Tree Ties	0.26
69	Plant Labels	0.33
71	Marker Pen	0.18
78	Garden Knife	1.58
82	½ Gallon Water Container	0.26
83	1 Gallon Water Container	0.79
84	2 Gallon Water Container	0.95
85	3 Gallon Water Container with tap	2.20

ALL PRICES INCLUDE V.A.T. AND CARRIAGE

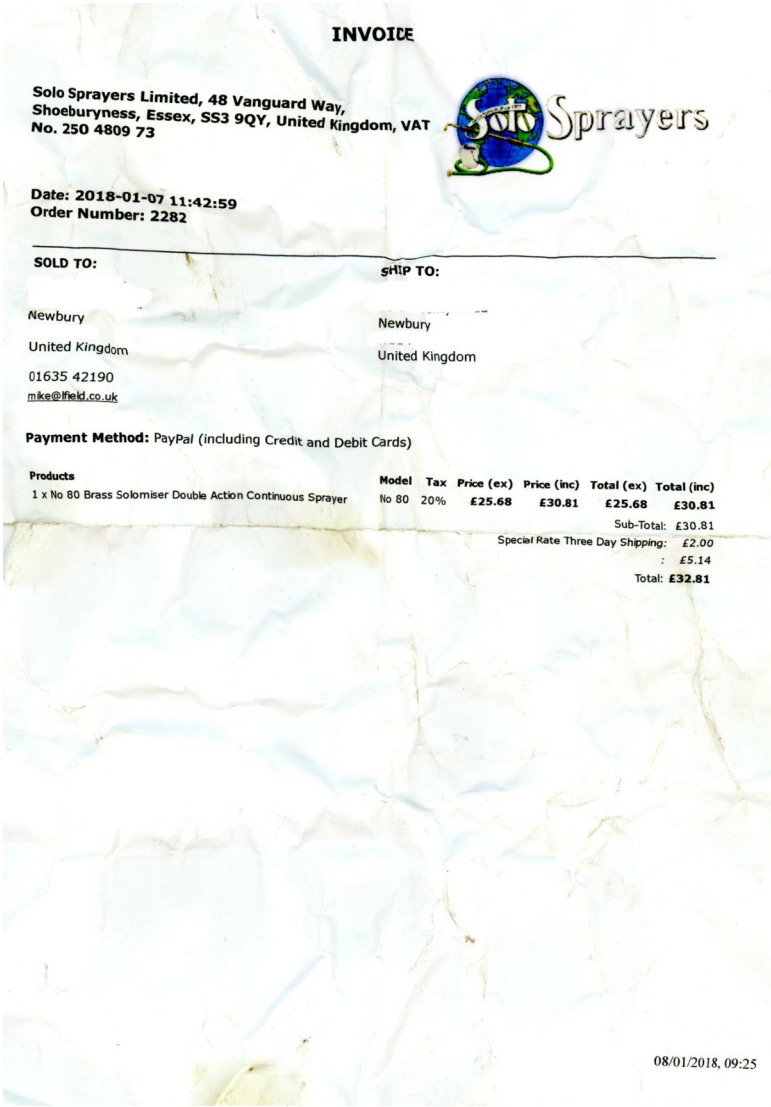
DETAILS OF MOTORISED SPRAYERS AND LARGE SYPHON PUMPS

Solo Sprayers Ltd

Box 1970s

Solo Sprayers Ltd

Invoice 2018



INVOICE

Solo Sprayers Limited, 48 Vanguard Way, Shoeburyness, Essex, SS3 9QY, United Kingdom, VAT No. 250 4809 73

Date: 2018-01-07 11:42:59
Order Number: 2282

SOLD TO:	SHIP TO:
Newbury	Newbury
United Kingdom	United Kingdom
01635 42190	
mike@field.co.uk	

Payment Method: PayPal (including Credit and Debit Cards)

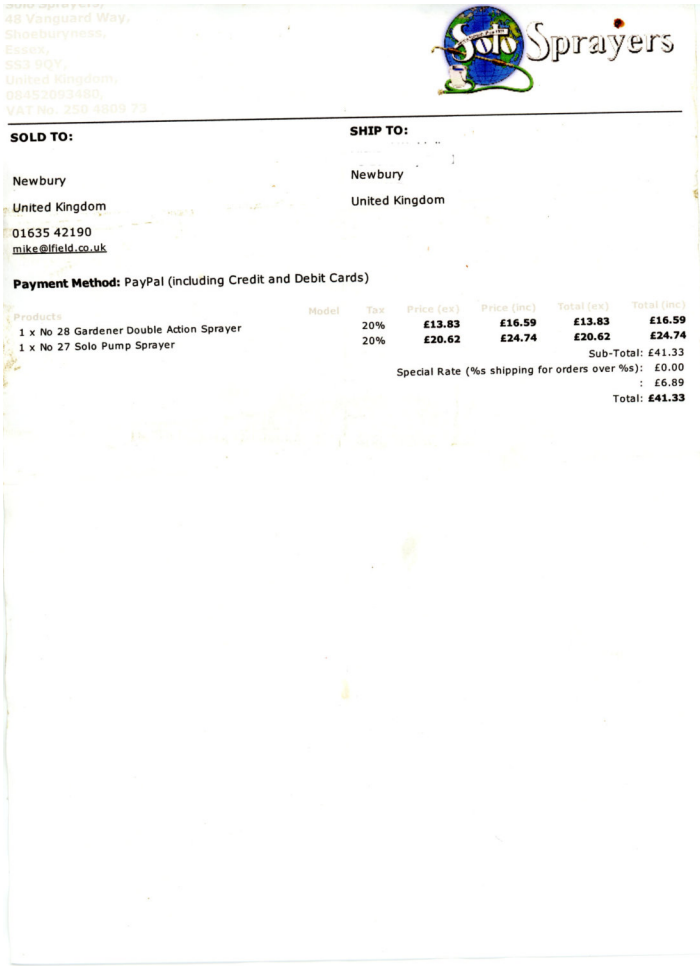
Products	Model	Tax	Price (ex)	Price (inc)	Total (ex)	Total (inc)
1 x No 80 Brass Solomiser Double Action Continuous Sprayer	No 80	20%	**£25.68**	**£30.81**	**£25.68**	**£30.81**

Sub-Total: £30.81
Special Rate Three Day Shipping: *£2.00*
: *£5.14*
Total: **£32.81**

08/01/2018, 09:25

Solo Sprayers Ltd

Invoice 2018



Solo Sprayers

48 Vanguard Way,
Shoeburyness,
Essex,
SS3 9QY,
United Kingdom.
08452093480.
VAT No. 250 4809 73

SOLD TO:

Newbury

United Kingdom

01635 42190
mike@lfield.co.uk

SHIP TO:

Newbury

United Kingdom

Payment Method: PayPal (including Credit and Debit Cards)

Products	Model	Tax	Price (ex)	Price (inc)	Total (ex)	Total (inc)
1 x No 28 Gardener Double Action Sprayer		20%	**£13.83**	**£16.59**	**£13.83**	**£16.59**
1 x No 27 Solo Pump Sprayer		20%	**£20.62**	**£24.74**	**£20.62**	**£24.74**

Sub-Total: £41.33
Special Rate (%s shipping for orders over %s): £0.00
: £6.89
Total: **£41.33**

Solo Sprayers Ltd

No. 28 MK 1 - Instructions 2018.

KEEP THIS SHEET FOR REFERENCE

No. 28 MK I GARDENER DOUBLE ACTION SPRAYER

INSTRUCTION SHEET

To commence spraying drop the strainer at the end of the hose into the bucket containing the liquid, hold the sprayer by the two handles and push the back hand backwards and forwards. Spraying will commence almost immediately.

For spraying underneath the foliage or in awkward and difficult situations attach the angle bend.

The variable nozzle can be adjusted to a spray from very fine to long range jet.

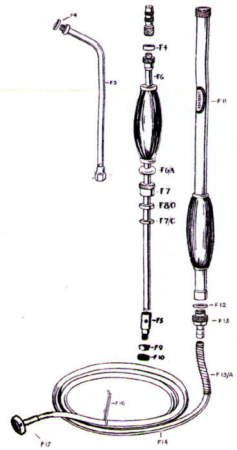
When using lime or other wash containing matter in suspension adjust wire clip of the hose so that the foot strainer is about one inch from the bottom of the bucket otherwise sediment may be drawn up.

If the strainer (F.17G) becomes coated over or a piece of grit stops up the hole in the nozzle (F.1) either will stop the sprayer from working. In the first case the filter surface must be freed, in the second case the nozzle must be removed and cleaned.

If the sprayer only pumps on one stroke, clean valves F.5 and F.13. If there is a leakage between the Inner Tube No. F.6 and Packing Cap F.7/0, screw down the cap until the leaking stops or replace F.8/0 Gland "O" Seal.

PARTS LIST

F.1	Spraying Nozzle
F.3	12" Angle Bend
F.4	Fibre Washer
F.5	Inner Valve
F.6	Inner Tube
F.6A	Buffer
F.7/0	Packing Cap
F.7/C	Brass Facing Washer
F.8/0	Gland "O" Seal
F.9	Cup Washer
F.10	Lock Ring
F.11	Outer Tube
F.12	Fibre Washer
F.13	Outer Valve
F.13/A	Spring
F.14	Suction Tubing
F.16	Bucket Clip
F.17	Strainer



OIL YOUR SPRAYER FREQUENTLY

It is recommended that the sprayer is protected against frost in the winter.
For repairs, overhauling or spare parts send direct to the manufacturers. In the case of repair return damaged part only.

Solo Sprayers Ltd,
48 Vanguard Way, Shoeburyness,
Essex, SS3 9QY
Tel: 01702 297134

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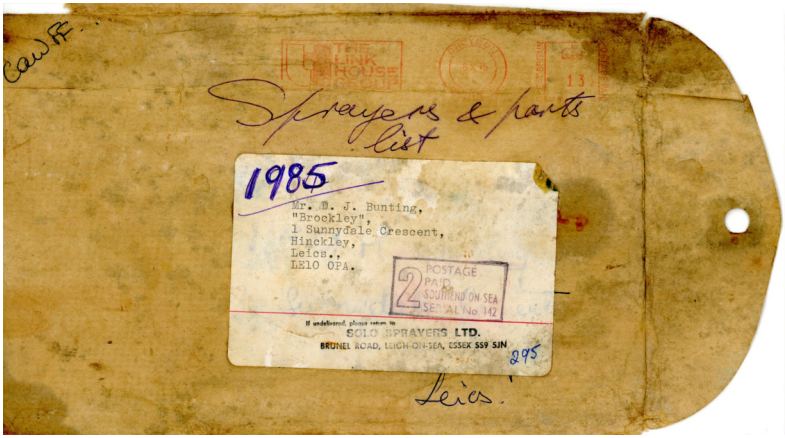
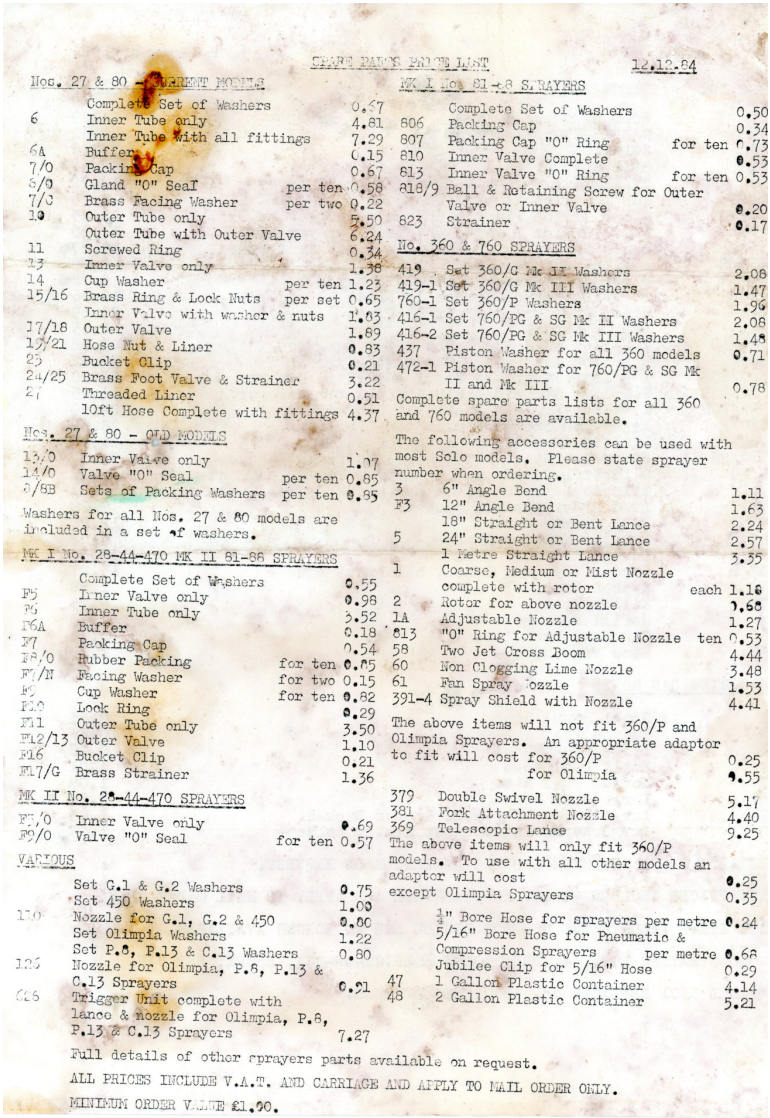
Solo Sprayers Ltd

Envelope 1985



Solo Sprayers Ltd

Part List - 1984



SPARE PARTS PRICE LIST 14.12.84

Nos. 27 & 80 - CURRENT MODELS

	Complete Set of Washers	0.47
6	Inner Tube only	4.81
	Inner Tube with all fittings	7.29
6A	Buffer	0.15
7/0	Packing Cap	0.67
8/0	Gland "O" Seal per ten	0.58
7/0	Brass Facing Washer per two	0.22
10	Outer Tube only	5.50
	Outer Tube with Outer Valve	6.24
11	Screwed Ring	0.34
13	Inner Valve only	1.36
14	Cup Washer per ten	1.23
15/16	Brass Ring & Lock Nuts per set	0.65
	Inner Valve with washer & nuts	1.83
17/18	Outer Valve	1.89
19/21	Hose Nut & Liner	0.83
25	Bucket Clip	0.21
24/25	Brass Foot Valve & Strainer	3.22
27	Threaded Liner	0.51
	10ft Hose Complete with fittings	4.37

Nos. 27 & 80 - OLD MODELS

13/0	Inner Valve only	1.07
14/0	Valve "O" Seal per ten	0.85
8/SB	Sets of Packing Washers per ten	0.85

Washers for all Nos. 27 & 80 models are included in a set of washers.

MK I No. 28-44-470 MK II 81-86 SPRAYERS

	Complete Set of Washers	0.55
F5	Inner Valve only	0.98
F6	Inner Tube only	3.52
F6A	Buffer	0.18
F7	Packing Cap	0.54
F8/0	Rubber Packing for ten	0.85
F9/N	Facing Washer for two	0.15
F9	Cup Washer for ten	0.82
F10	Lock Ring	0.29
F11	Outer Tube only	3.50
F12/13	Outer Valve	1.10
F16	Bucket Clip	0.21
F17/G	Brass Strainer	1.36

MK II No. 28-44-470 SPRAYERS

F7/0	Inner Valve only	0.69
F9/0	Valve "O" Seal for ten	0.57

VARIOUS

	Set G.1 & G.2 Washers	0.75
	Set 450 Washers	1.00
170	Nozzle for G.1, G.2 & 450	0.80
	Set Olimpia Washers	1.22
	Set P.8, P.13 & C.13 Washers	0.80
126	Nozzle for Olimpia, P.8, P.13 & C.13 Sprayers	0.91
226	Trigger Unit complete with lance & nozzle for Olimpia, P.8, P.13 & C.13 Sprayers	7.27

MK I Nos. 81-86 SPRAYERS

	Complete Set of Washers	0.50
806	Packing Cap	0.34
807	Packing Cap "O" Ring for ten	0.73
810	Inner Valve Complete	0.53
813	Inner Valve "O" Ring for ten	0.53
818/9	Ball & Retaining Screw for Outer Valve or Inner Valve	0.20
823	Strainer	0.17

No. 360 & 760 SPRAYERS

419	Set 360/G Mk II Washers	2.08
419-1	Set 360/G Mk III Washers	1.47
760-1	Set 360/P Washers	1.96
416-1	Set 760/PG & SG Mk II Washers	2.08
416-2	Set 760/PG & SG Mk III Washers	1.48
437	Piston Washer for all 360 models	0.71
472-1	Piston Washer for 760/PG & SG Mk II and Mk III	0.78

Complete spare parts lists for all 360 and 760 models are available.

The following accessories can be used with most Solo models. Please state sprayer number when ordering.

3	6" Angle Bend	1.11
F3	12" Angle Bend	1.63
	18" Straight or Bent Lance	2.24
5	24" Straight or Bent Lance	2.57
	1 Metre Straight Lance	3.35
1	Coarse, Medium or Mist Nozzle complete with rotor each	1.16
2	Rotor for above nozzle	0.68
1A	Adjustable Nozzle	1.27
813	"O" Ring for Adjustable Nozzle ten	0.53
58	Two Jet Cross Boom	4.44
60	Non Clogging Lime Nozzle	3.48
61	Fan Spray Nozzle	1.53
391-4	Spray Shield with Nozzle	4.41

The above items will not fit 360/P and Olimpia Sprayers. An appropriate adaptor to fit will cost for 360/P 0.25
for Olimpia 0.55

379	Double Swivel Nozzle	5.17
381	Fork Attachment Nozzle	4.40
369	Telescopic Lance	9.25

The above items will only fit 360/P models. To use with all other models an adaptor will cost 0.25
except Olimpia Sprayers 0.35

	¼" Bore Hose for sprayers per metre	0.24
	5/16" Bore Hose for Pneumatic & Compression Sprayers per metre	0.68
	Jubilee Clip for 5/16" Hose	0.29
47	1 Gallon Plastic Container	4.14
48	2 Gallon Plastic Container	5.21

Full details of other sprayers parts available on request.

ALL PRICES INCLUDE V.A.T. AND CARRIAGE AND APPLY TO MAIL ORDER ONLY.

MINIMUM ORDER VALUE £1.00.

Solo Sprayers Ltd

Part List - 1984

12th December 1984

REF NO.	DESCRIPTION	PRICE
27	SOLO Sprayer MK I	14.29
28	GARDENER Sprayer MK I	9.32
80	SOLOMISER Sprayer MK I	16.46
81	STAR Sprayer MK II	6.53
88	STARPACK 1 Gallon Plastic Knapsack Sprayer MK II	10.22
44/P	ACE 1 Gallon Plastic Knapsack Sprayer MK I	11.79
44/AP	ACE 2 Gallon Plastic Knapsack Sprayer MK I	12.45
470	ACE 2 Gallon Plastic Knapsack Sprayer MK I	14.20
*3301	Brass Syringe with fine spray nozzle & rose	10.87
550/L	1 Litre Trigger Spray	1.36
450	Floris 1.5 Litre Pneumatic Sprayer	9.78
C.1	Brass Pressure Sprayer 1¾ Pints	16.36
C.2	Brass Pressure Sprayer 3½ Pints	20.69
91	SPEEDY Spray	2.45
360/1G	1 Gallon Mild Steel Pneumatic Sprayer	43.58
360/2G	2 Gallon Mild Steel Pneumatic Sprayer	52.42
360/1SG	1 Gallon Stainless Steel Pneumatic Sprayer	52.90
360/2SG	2 Gallon Stainless Steel Pneumatic Sprayer	64.85
360/P-M	1 Gallon Plastic Pneumatic Sprayer	24.90
360/P-L	1½ Gallon Plastic Pneumatic Sprayer	28.69
760/PG	Plastic Compression Knapsack Sprayer	61.19
760/SG	Stainless Steel Compression Knapsack Sprayer	75.57
C.10	Olimpia Lever Operated Sprayer 2½ Gallon Container	26.32
C.18	Olimpia Lever Operated Sprayer 4 Gallon Container	32.91
3210	Powder Sprayer ½lb size	9.28
330	Baby Duster	12.22
57	Trigger Release Lance	8.02
57/A	Border Watering Lance	10.61
57/B	Border Watering Lance, all brass rose	13.27
64	Syphon Pump	2.56
70	Killer Kane	5.95
	Refill for above	2.20
65	Standard Tree Ties	1.00
66	Rose Tree Ties	1.00

WATERING CAN ROSES

1	Small Round Rose	0.83
2	Medium Rose	0.86
3	Large Round Rose	0.98
4	Small Oval Rose	1.01
5	Medium Oval Rose	1.08
6	Large Oval Rose	1.24
7	Large Round Fine Rose Rubber Backed	1.05
8	Large Round Coarse Rose Rubber Backed	1.05

DETAILS OF LARGER SYPHON PUMPS AVAILABLE ON REQUEST.

ALL PRICES INCLUDE V.A.T. AND CARRIAGE AND APPLY TO MAIL ORDER ONLY.

ANY ITEMS ILLUSTRATED BUT NOT LISTED ARE NO LONGER AVAILABLE.

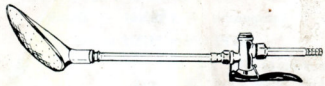
SOLO SPRAYERS LTD., 4, BRUNEL ROAD, LEIGH-ON-SEA, ESSEX, SS9 5JN.

*MODEL 3301 REPLACES No. 40 MIDGET SYRINGE.

Solo Sprayers Ltd

Leaflet - 1984

No. 57/A TRIGGER ACTION BORDER WATERER



Instantaneous on/off brass trigger release valve with 2ft. straight lance and a brass rose which is plastic backed. The oval design gives a wide spray of water, ideal for watering seed and flower beds. For ½in. hose. (Other sizes supplied on request.)

No. 57/B TRIGGER ACTION BORDER WATERER

AS ABOVE BUT WITH ALL BRASS ROSE

No. 57 TRIGGER RELEASE LANCE

Instantaneous trigger release and stop, suitable for ½in. hose (⅜in. or ¼in. connector supplied on request). 2ft. Lance with fully adjustable fine spray nozzle. Ideal for washing cars, windows, floors, walls or watering seed or flower beds.

No. 3210 POWDER SPRAY

A most efficient means of applying all types of insecticide powder. Brass pump 12½" Long with plastic container, capacity ½ lb.

SOLO SPRAYERS LTD.

Solo Works, 4 Brunel Road, Progress Road Eastwood, Leigh-on-Sea, Essex SS9 5JN

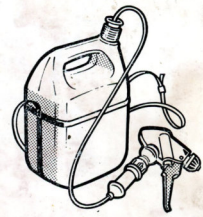
Tel.: Southend-on-Sea 0702 525740

SOLO

HAND AND PRESSURE SPRAYERS FOR THE GARDEN

No. 91 SOLO SPEEDY SPRAY

SIMPLE
EASY TO USE



This 4 Pint easy to use all purpose sprayer is ideal for spraying rose bushes, seedlings, all plants, wetting wall paper prior to stripping, disinfecting and spraying budgerigars. The sprayer is trigger operated and provides a convenient method of application of liquids for any job. The adjustable nozzle delivers a range of sprays from fine mist to powerful jet stream. Will not rust or corrode.

No. 550 HAND SPRAYER

All plastic sprayer fitted with fine strainer to prevent blockages and adjustable nozzle. This sprayer is suitable for spraying roses, seedlings wall paper prior to stripping and all other small jobs.

1 pint and 1 litre sizes available.

Solo Sprayers Ltd

Leaflet - 1984

G.1. AND G.2. BRASS HAND PNEUMATIC SPRAYER

All brass hand sprayer available in two sizes, 1 and 2 Litres (1¾ and 3½ pints). Supplied with on/off tap control, 4″ Bent extension and fixed fine cone spray nozzle. An adjustable nozzle and fan nozzle can be obtained to fit these sprayers.

No. 450 FLORIS PNEUMATIC TRIGGER RELEASE SPRAYER

An easy to use and very practical pressure sprayer from Italy, suitable for treatments on flowers, disinfection, humidification etc. Container and pump made from strong, best quality plastic, and the 3in. lance and mist spray nozzle are made from brass.

Easy to pump and operated by instant, on/off lever control. Tank capacity 2½ pints. Adjustable nozzle available.

No. 64 SYPHON PUMP

Made from High-Grade Polyethylene

Inexpensive — Efficient — Durable

SYPHON or PUMP at will

Empties or fills. Oil, acid and alkali proof. For all liquids, petrol, paraffin water chemicals, light oils, etc.

Used by thousands for:

- Filling motor mowers
- Outboard motors
- Garden sprayers
- Winemaking
- Aquariums
- Camping
- Dispensing, etc.

CAPACITY SEVEN PINTS PER MINUTE

No. 70 KILLER KANE

SPOT WEED AND INSECT KILLER

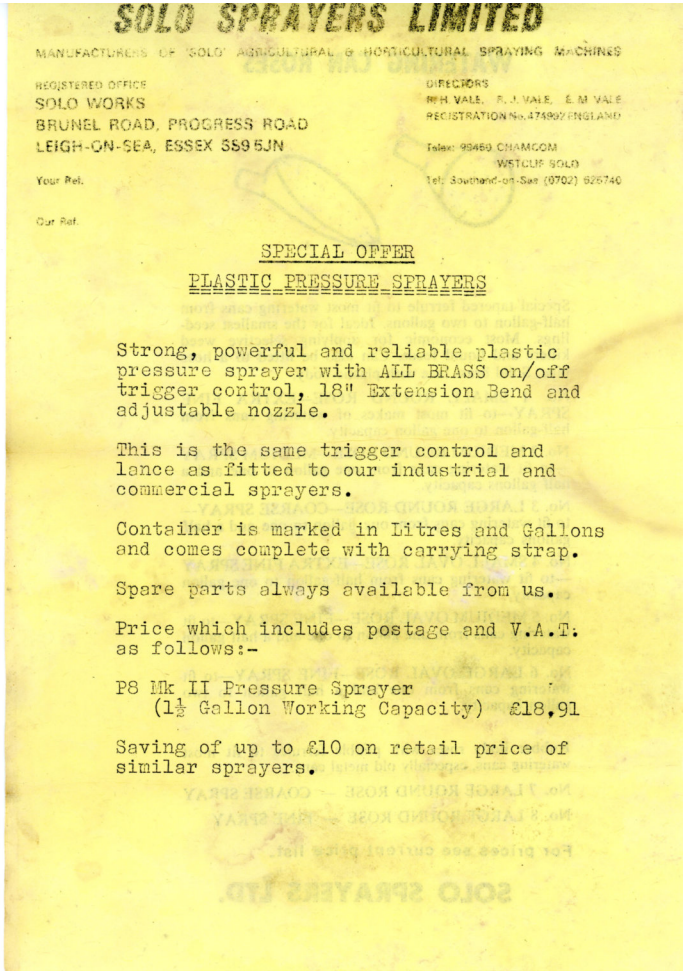
The simplest way to rid your lawn of all types of weeds and insects. Destroys dandelions, plantains, chickweed, poison ivy, poison oak, nettles, thistles with only one application. Just fill the Kane with water and drop in one Killer Kane tablet, adjust the nozzle for the size of spray required and place the tip of the Killer Kane on the weed, push down and release quickly. Absolutely no effect on surrounding flowers and shrubs. Eliminates all stooping, bending and digging. One filling kills hundreds of weeds quickly, effectively and economically.

Supplied with one tube of ten tablets.

Refill tubes of tablets available.

Solo Sprayers Ltd

Leaflet - 1984



SOLO SPRAYERS LIMITED

MANUFACTURERS OF 'SOLO' AGRICULTURAL & HORTICULTURAL SPRAYING MACHINES

REGISTERED OFFICE
SOLO WORKS
BRUNEL ROAD, PROGRESS ROAD
LEIGH-ON-SEA, ESSEX SS9 5JN

DIRECTORS
W.H. VALE. R.J. VALE. E.M. VALE
REGISTRATION No. 474992 ENGLAND

Telex: 95469 CHAMCOM
WSTCLIF SOLO
Tel: Southend-on-Sea (0702) 525740

Your Ref.

Our Ref.

SPECIAL OFFER

PLASTIC PRESSURE SPRAYERS

Strong, powerful and reliable plastic pressure sprayer with ALL BRASS on/off trigger control, 18" Extension Bend and adjustable nozzle.

This is the same trigger control and lance as fitted to our industrial and commercial sprayers.

Container is marked in Litres and Gallons and comes complete with carrying strap.

Spare parts always available from us.

Price which includes postage and V.A.T. as follows:-

P8 Mk II Pressure Sprayer
(1½ Gallon Working Capacity) £18.91

Saving of up to £10 on retail price of similar sprayers.

Solo Sprayers Ltd

Leaflet - 1984

WATERING CAN ROSES

Special tapered ferrule to fit most watering cans from half-gallon to two gallons. Ideal for the smallest seedlings. Most economic for applying selective weed killers and liquid feeds. Can also be fitted to a hose pipe. Solid brass face with plastic body.

No. 1 SMALL ROUND ROSE—EXTRA FINE SPRAY—to fit most makes of watering cans from half-gallon to one gallon capacity.

No. 2 MEDIUM ROUND ROSE—MEDIUM SPRAY —to fit watering cans from one gallon to one and a half gallons capacity.

No. 3 LARGE ROUND ROSE—COARSE SPRAY— to fit watering cans from one gallon to one and a half gallons capacity.

No. 4 SMALL OVAL ROSE—EXTRA FINE SPRAY —to fit watering cans from half-gallon to one gallon capacity.

No. 5 MEDIUM OVAL ROSE—FINE SPRAY—to fit watering cans from one gallon to one and a half gallon capacity.

No. 6 LARGE OVAL ROSE—FINE SPRAY—to fit watering cans from one and a half gallon to two gallon capacity.

Rubber body roses with pliable ferrules to fit most watering cans, especially old metal cans.

No. 7 LARGE ROUND ROSE — COARSE SPRAY

No. 8 LARGE ROUND ROSE — FINE SPRAY

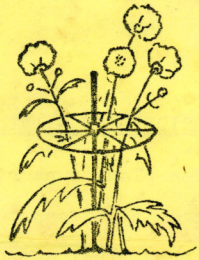
For prices see current price list.

SOLO SPRAYERS LTD.

Solo Sprayers Ltd

Leaflet - 1983

No. 73 PLANT SUPPORT

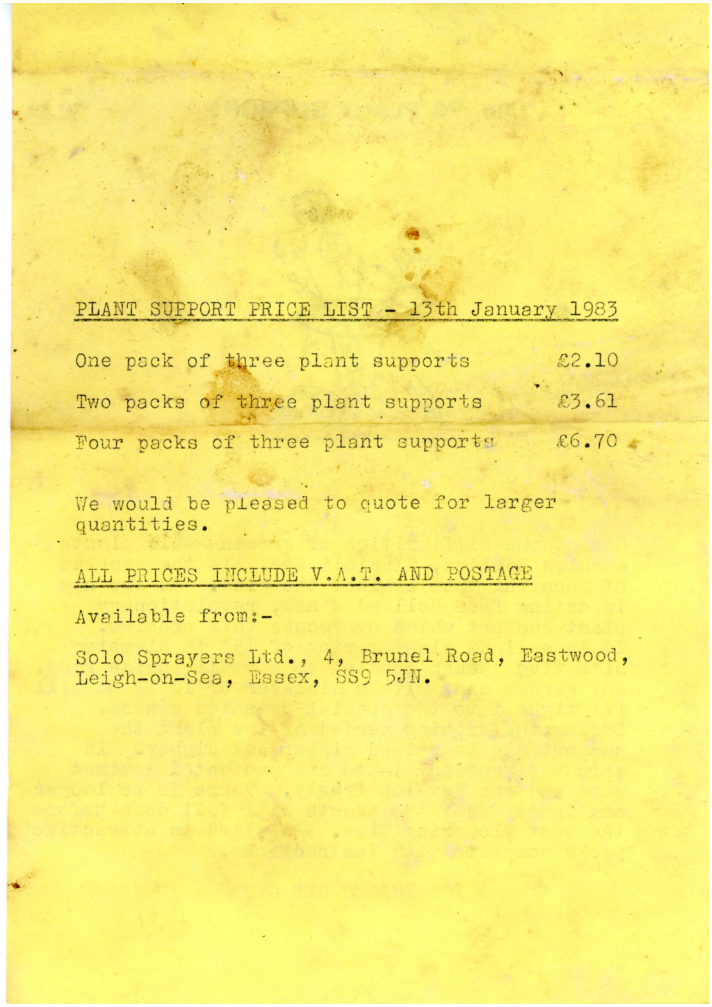


One of the difficulties of growing tall plants such as Dahlias, Gladioli etc., is the problem of securing them against the wind. We are now importing from Holland a new, revolutionary plant support which overcomes this problem. It is a light plastic ring of 15" in diameter with five spokes leading to a small inside ring. Any garden cane with a diameter of 10/12 mm will fit tight into the special patented centre. During the growing period of the plant the support can be raised higher and higher. In this way growing plants are protected against wind and can develop freely. There is no longer any danger that the plants will fall down before the best flowering time. Supplied in attractive packs complete with instructions.

FOR PRICES SEE OVER

Solo Sprayers Ltd

Leaflet - 1983



PLANT SUPPORT PRICE LIST - 13th January 1983

One pack of three plant supports	£2.10
Two packs of three plant supports	£3.61
Four packs of three plant supports	£6.70

We would be pleased to quote for larger quantities.

ALL PRICES INCLUDE V.A.T. AND POSTAGE

Available from:-

Solo Sprayers Ltd., 4, Brunel Road, Eastwood, Leigh-on-Sea, Essex, SS9 5JN.

Solo Sprayers Ltd

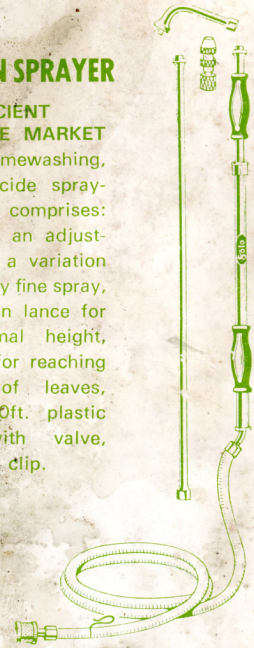
SOLO
DOUBLE—ACTION
SPRAYERS

FOR EVERY SPRAYING JOB IN THE GARDEN

SOLO No. 27
DOUBLE ACTION SPRAYER

THE MOST EFFICIENT SPRAYER ON THE MARKET

Indispensable for limewashing, creosoting, insecticide spraying, etc. The outfit comprises: Solid brass pump, an adjustable nozzle giving a variation between jet and very fine spray, 18" brass extension lance for work above normal height, brass angle bend for reaching the underneath of leaves, branches, etc.; 10ft. plastic suction hose with valve, strainer and bucket clip.

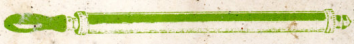


SOLO SPRAYERS LIMITED

SOLO WORKS, 4 BRUNEL ROAD,
PROGRESS ROAD, EASTWOOD
LEIGH-ON-SEA, ESSEX SS9 5JN
TEL.: SOUTHEND-ON-SEA 0702 525740

Solo Sprayers Ltd

No. 40
"MIDGET" GARDEN SYRINGE



The all brass "MIDGET" Garden Syringe measures 16" long by ⅞" in diameter and is fitted with a quick filling valve and fine spray nozzle.

The following accessories can be used with all sprayers illustrated in this leaflet. Please state Sprayer number when ordering.

No. 58	Two-Jet Cross Boom
No. 60	Non-clogging Lime Nozzle
No. 61	Fan Spray Nozzle
No. 379	Double-Swivel Nozzle
No. 381	Fork Nozzle attachment
No. 391	Spray Shield with Special Fan Nozzle
No. 369	Telescopic Lance

Coarse, Medium or Fine cone nozzle

12in. Angle Bend	18in. Bent Lance
18in. Straight Lance	24in. Bent Lance
24in. Straight Lance	1 Metre Lance

A 1 or 2 gallon Knapsack container can be supplied for use with sprayers No. 27, 28, 80 and 81 as follows:-

No. 47 1 Gallon container with harness and hose
No. 48 2 Gallon container with harness and hose.

See separate lists for further information on above accessories and current prices for all items mentioned in this leaflet.

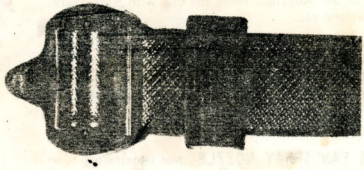
Solo Sprayers Ltd

RAINBOW PRODUCTS

No. 65 TREE TIES

RAINBOW TREE TIES . . . stretch with the growth of the trees—the encircling strap is flexible and expanding, allowing freedom for the tree to grow without strangling or scarring the trunk. Spacing collar prevents chafing between tree and stake.

Supplied in packs of 2 Ties.



No. 66 ROSE TREE TIES

Used by the professionals. Designed to expand as the tree grows, holding gently but firmly to the stake.

Supplied in packs of 4 Ties.

No. 69 PLANT LABELS

Pure white plastic labels indestructible and completely weather-proof. Punched holes enables label to be used as a tie-on for roses, etc., or it has a pointed tip for putting in ground.

Available in packs of 100 x 4 in. or 75 x 5 in.

WITHDRAWN

No. 71 MARKER PENS

Especially suitable for above plant labels. Durable and weatherproof.

FOR CURRENT PRICES PLEASE SEE PRICE LIST

SOLO SPRAYERS LTD.

SOLO WORKS, BRUNEL RD., PROGRESS RD., LEIGH-ON-SEA, ESSEX SS9 5JN

Telephone: Southend-on-Sea 525740

Solo Sprayers Ltd

The following accessories can be used with all SOLO Models. Please state Sprayer Number when ordering.

No. 58 TWO-JET CROSS BOOM

Made from Best Quality Brass, Width 18in. Fitted with two Fan Jet Nozzles. Ideal for use with Fertilisers, Weedkillers, etc.

No. 60 NON-CLOGGING LIME NOZZLE

Suitable for use with Lime Wash. A Needle prevents the hole from becoming blocked.

No. 61 FAN SPRAY NOZZLE (Not illustrated)

Ideal for spraying selective weedkillers and fertilisers, etc.

No. 379 DOUBLE-SWIVEL NOZZLE

A double-swivel nozzle for row-crop application. Can be adjusted to spray to either side, down onto or up-under potatoes, vegetables, etc. Fitted with cone spray nozzles.

No. 381 FORK ATTACHMENT

A fixed double-cone spray nozzle, suitable for spraying rows of vegetables, etc.

No. 391 SPRAY SHIELDS

To protect plants etc., made from tough, but extremely light-weight plastic.

A: 6" Diameter
B: 6" Diameter–Spray width 5"–6"
C: 8" Diameter–Spray width 7"–8"

ITEM 391-4 ONLY SUPPLIED

No. 369 TELESCOPIC LANCE

For spraying trees etc. Lance is easily adjusted between 2½ft. and 5ft.

ALSO AVAILABLE

12" Angle Bend
18" Angle Bend
24" Straight Lance

18" Bent Lance
24" Bent Lance
36" Straight Lance

Adjustable Nozzle
Coarse, Medium or Fine cone nozzle

For repairs or spare parts send direct to —

SOLO SPRAYERS LTD., 4, BRUNEL ROAD, LEIGH-ON-SEA, ESSEX SS9 5JN

Solo Sprayers Ltd

Ebay advert for leather cup washers - 2026

12 Leather Cup Washers of Various Sizes, Garden Sprayers Srynges Pressure Stove

Solo Sprayers (13941) · Business
100% positive · Seller's other items · Message seller

£12.94
(£12.94 / Unit)

Pay in 30 days with Klarna
18+, TC apply, Credit subject to status.

Condition: **New**

Quantity: 1 More than 10 available · **737 sold**

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Chapter 37

Stonehouse Works Co

Stonehouse Works Co

Stonehouse Works Co

16 Spon Lane Mills, Houghton Street, West Bromwich.

A company of this name went into liquidation in 1898. From the assets for sale, it seems that it was a well-quipped engineering firm. They were making carriages, motor vehicles and cycles.

The company then seems to have been resurrected and in 1916 Norman Tailby was the proprietor. On 31 May 1916 while trading as the Stonehouse Works Co he applied for a patent for parcelling scrap metal. The Birmingham Daily Post 2 February 1918 has a large advertisement for a FOOD PRODUCTION SPRAYING DEMONSTRATION to take place on 11 February 1918. In this advertisement the company is described as “Spraying Machine Manufacturers”. In 1921 there are further advertisements for “Super Limewashing Spraying and Garden Syringes”. They used a Mr Wiseman character in their advertising. In the late 1910s and 1920s there are advertisements for KILZALL the lightning insecticide and fungicide; for VITALIZER the food for fruit and flowers; for SLUG SLAYER the slug killer, and ABUNDA the wonder fertiliser. Included in some of these advertisements are drawings of syringes, a bucket pump and a backpack sprayer. At this time, they are stating that the company is the “Largest Manufacturer of Syringes in the British Isles”.

In 1940 there are newspaper advertisements for the ARP stirrup pumps available directly from the manufacturer. Other than this there is no mention of sprayers after the 1920s which suggests that they may not have continued with sprayer production. However, the company did produce a wide range of other products including timber, poultry incubation products, tools, bicycles, and motor vehicle parts and accessories. Production of some of these continued at least until October 1951 when there was a major fire at the factory in Houghton Street which destroyed the rolling mill and damaged other building on the site. After this there are no mentions of the company in the newspapers, so possibly they did not recover. Norman Tailby has two patents relating to sprayers. Patent GB136087A applied for 5 May 1919 and granted 11 December 1919 for a nozzle head with double spray outlets. This was implemented in the SUPER syringe. The other patent is GB208568A applied for 12 April 1923 and granted 27 December 1923 for modifications to sprayers stock cocks.

Stonehouse Works Co

Models - Known are BARON, COVENT, CZAR, EMPEROR, FAIRY, KING, KAISER, MARQUIS, MIKADO, MONARCH, PRESIDENT, QUEEN, RAJAH, STONEHOUSE, SUPER. There will have been others.

Early Pumps

Above :- A number of sprayers were made under the STONE-HOUSE brand. The illustration above is one of the container versions. The container type probably all used a similar pump based on a force pump with an air chamber, but had different containers and wheel arrangement. In 1914 the following were advertised :-

***KING** - 4 gallon container.*
***KAISER** - 4 gallon container.*
***PRESIDENT** - 6 gallon container.*
***CZAR** - 6 gallon container.*
***RAJAH** - 6 gallon container. Bucket sprayer with common pump.*
***MONARCH** - 18 gallon container.*
BARON - *30 gallon oak container and double hose output. Two large wheels and one small front wheel. Force pump.*

They were also advertising the EMPORER spring pump, but I am unsure what this was. In 1925 there were advertisements QUEEN pneumatic hand sprayer.

Stonehouse Works Co

Bucket Pump

Left and Below :- Not in my collection. The picture is copyright and used here with permission. It appears to be a fairly standard implementation of a common pump without an air chamber. Model name unknown.

Two other version are known. One with a larger cylindrical bucket which seems to use the same pump and another version with the same bucket which has a pump with an air chamber.

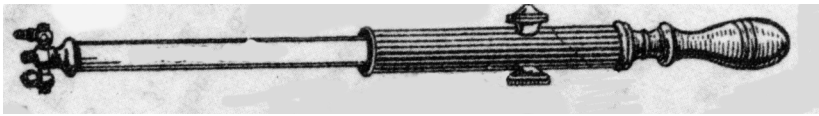
Stonehouse Works Co

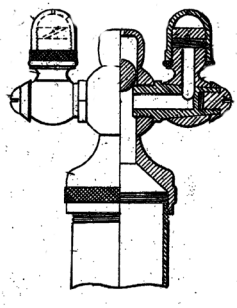
Rucksack Sprayer

Above :- This appears to be a fairly standard sprayer of its type. It uses a force pump (right) with an air chamber (left). Mentioned in 1914, 1918 and 1924 advertising. An example of this sprayer is known with a Vermorel lid which could means that it was made by Vermorel and badged by Stonehouse.

Stonehouse Works Co

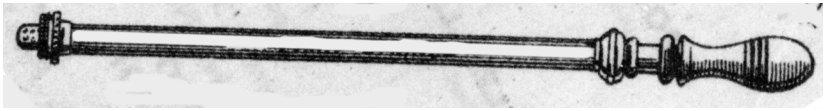
Syringes



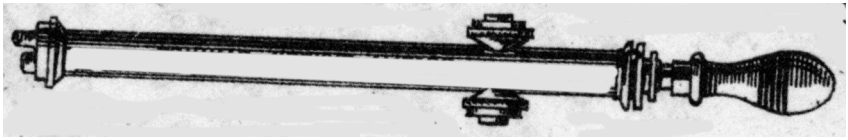


Above :- The SUPER syringe. This has the patented double swivel nozzle head. GB136087A applied for 5 May 1919 and granted 11 December 1919. It was also supplied with a rose and jet nozzle.

Left : The double spray nozzle head with a central fast fill valve controlled by a ball.



Above :- The FAIRY syringe. This appears to have a spray nozzle with an integrated fast fill valve similar to that used by Ernest Hill. The barrel end cap looks unusual.

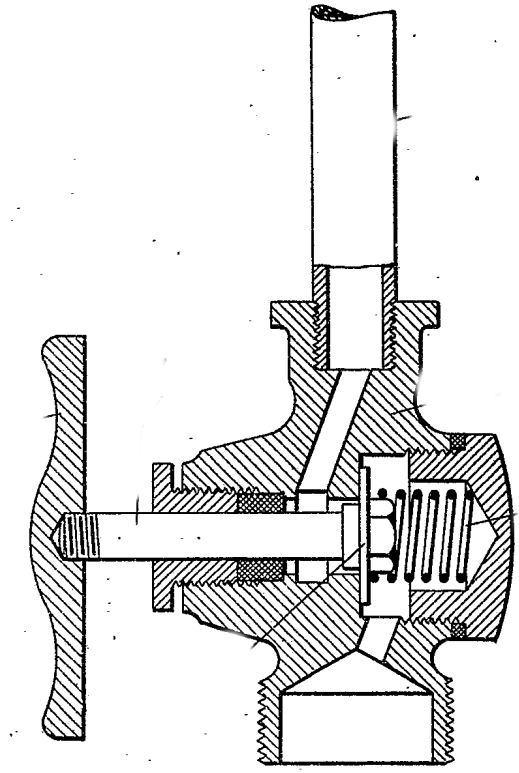


Above :- The COVENT syringe. Spray nozzle with a separate fast fill valve. Rose and jet nozzles are also provided.

Above :- Syringe circa 1925.

Stonehouse Works Co

Patent GB208568A



This patent was applied for 12 April 1923 by NORMAN TAILBY and granted 27 December 1923. A spring controlled cock adapted to be actuated by application of a thumb or finger to a projecting outer end of the valve stem, or by the grasp of the hand on a lever arranged to operate the valve stem.

Stonehouse Works Co

Advertisement 1918

Stonehouse Works Co

Smethwick Telephone - Saturday 06 July 1918

Spray your Potatoes! DEMONSTRATIONS WITH STONE-HOUSE "Knapsack" Sprayers at UPLANDS ALLOTMENT To-day (Saturday), at 6-30 p.m. Farmers, Allotment Holders, Gardeners should make a point of attending. Machines and Materials on view, and advice given. Experts on Sprays and Spraying at Smethwick Cricket Club Grounds. Broomfield, from 3 to 6 p m. MAKERS: STONEHOUSE WORKS HOUGHTON STREET, WEST BROMWICH.

Portsmouth Evening News - Thursday 08 July 1926

KILZALL The lightning insecticide and Fungicide: non-poisonous. Powder, 6d. and 1/- packets. Liquid. 2-pint. 1/3: pint, 2/3; quart, 4/-. .STONEHOUSE SLUG SLAYER swift, sure and non-poisonous answer to the slug pest. Large tins, 1/31 7 lbs., 3/-; 141bs. 5/-. Obtainable from your local dealer. Also ask for STONEHOUSE Sprayers and Syringes, STONEHOUSE WORKS CO, WEST BROMWICH

Chapter 38

Stott Distributer Co Ltd

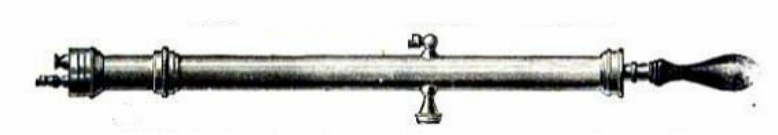
Stott Distributor Co Ltd

Stott Distributor Co Ltd

Barton House, Manchester.

The company was formed in 1889 and ceased trading before 1915 (source national archives). They are mentioned in The Gardeners Chronicle 1891,1892,1893 but not before or after that as far as I can ascertain. John James Stott (Yarn Agent) of Barton House, Manchester has a number of patents around 1895. The one related to sprayers is GB189413881A applied for 19 July 1894 and granted 19 July 1895. This is for a device used to distribute fertilizers. The device connects in line to a hose. However, the patent includes a nozzle (fig. 3 in patent) and it is this which is used on the syringe.

Stott Distributor Co Ltd is mentioned in the Sydney Mail in 1891. '*The Judges were struck by the utility of the handy "Stott" syringe ----- '*. Mention is also made of Stott Fertiliser and Insecticide Distributor Co which is probably the same company.



Above :- An early (1890s) drawing of the original STOTT's syringe.

Above :- [380] Manufacturer's plate reads "STOTT'S PATENT INSECTICIDE SYRINGE PATENT". Barrel length 16 inches and diameter 1½ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel piston ½ inch in length. Hanging hook. Removable spray head with a fast-fill valve. This is controlled by a cone shaped component. The spray nozzle is of patent design. Provided with a rose nozzle which screws onto the spray head. Holder on barrel for nozzle not in use. A more refined construction than shown in the drawing. Probably dating 1900 to 1915.

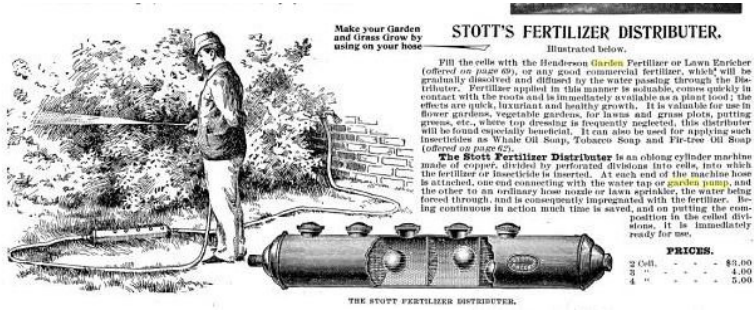
Left :- The patent nozzle.

Right : Drawing of the patent spray producing nozzle. Spray is directed at a 90 degree angle.

Stott Distributor Co Ltd

Left :- The manufacturer's plate.

Right :- The hanging hook.



Make your Garden and Grass Grow by using on your hose

STOTT'S FERTILIZER DISTRIBUTER.

Illustrated below.

Fill the cells with the Henderson Garden Fertilizer or Lawn Enricher (*offered on page 69*), or any good commercial fertilizer, which will be gradually dissolved and diffused by the water passing through the Distributer. Fertilizer applied in this manner is soluable, comes quickly in contact with the roots and is immediately available as a plant food; the effects are quick, luxuriant and healthy growth. It is valuable for use in flower gardens, vegetable gardens, for lawns and grass plots, putting greens, etc., where top dressing is frequently neglected, this distributer will be found especially beneficial. It can also be used for applying such insecticides as Whale Oil Soap, Tobacco Soap and Fir-tree Oil Soap (*offered on page 62*).

The Stott Fertilizer Distributer is an oblong cylinder machine made of copper, divided by perforated divisions into cells, into which the fertilizer or insecticide is inserted. At each end of the machine hose is attached, one end connecting with the water tap or garden pump, and the other to an ordinary hose nozzle or lawn sprinkler, the water being forced through, and is consequently impregnated with the fertilizer. Being continuous in action much time is saved, and on putting the composition in the celled divisions, it is immediately ready for use.

PRICES.

2 Cell.	$3.00
3 "	4.00
4 "	5.00

THE STOTT FERTILIZER DISTRIBUTER.

Above :- Early advertisement for the STOTT'S FERTLIZER DISTRIBUTOR (1890s).

Chapter 39

Talfacto Ltd

Talfacto Ltd

Talfacto Ltd - Talbot Manufacturing Co Ltd

226, Queen's Drive, North Promenade, Blackpool, Lancs.

Late 1920 until early 1950s.

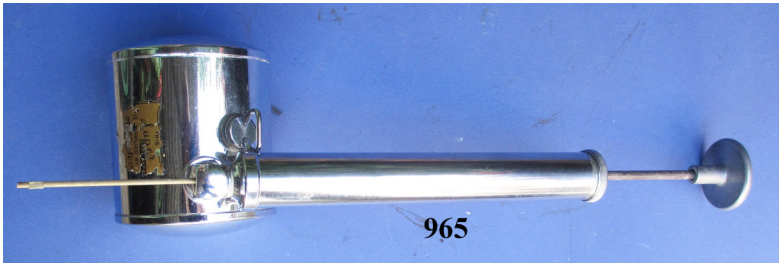
Talfacto Ltd were manufacturers of disinfectants. They supplied sprayers for use with these. In 1948 they had a lavatory chain sprayer. This fitted onto the chain and dispensed a spray when the chain was pulled. They also made lavatory chain brackets, automatic door closers, toilet paper, toilet paper holders, Talfacto germicidal perfume spraying fluid and Talfacto 'Ridacold' inhalant.

Above :- [591] {4} Metal manufacturers plate (see below). Handheld sprayer with air pump. Uses the air pumped into the container plus a direct air feed from the pump to the nozzle to give a finely atomized spray of air and liquid. Brass air pump with barrel length 6 inches and diameter of 1¼ inches. Valve is a ball and spring. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Metal handle. Pressure vent on top of sprayer. The barrel end cap has been soldered on as an after purchase modification. Also known chromium plated.

Left :- Plate.

Right :- The feed into nozzle and the hole which feeds air direct from pump to nozzle.

Talfacto Ltd



Above :- [965] {4} Handheld chromium plated sprayer with air pump. Uses the air pumped into the container plus a direct air feed from the pump to the nozzle to give a finely atomized spray of air and liquid. Air pump with barrel length 9 inches and diameter of 1¼ inches. Container 4 inches in diameter and 4 inches in height. Valve is a ball. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Metal handle.

Left :- The decal. THIS SUPER SPRAYER IS SUPPLIED BY TALFACTO LTD.

Left :- The air pump piston. It has spring buffer. Probably it originally had a single forward facing cup washer.

Below :- The tube which runs inside the nozzle providing air directly from the air pump to the nozzle where it is mixed with liquid from the container.

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Chapter 40

Testar & Swain Ltd

ASL Airflow Ltd

Testar & Swain Ltd

Testar & Swain Ltd.

48 Ormand Street, Birmingham to 1907.
Florence Works, 95 Pritchett Street, Aston, Birmingham.

In 1906 the firm was founded by Mr Charles Herbert Testar (1874 to 1936) and Mr Joseph Swain to manufacture horticultural sprayers, equipment for beekeeping, bread tins and kitchen trays. Originally they worked from Ormond Street and in 1907 they moved to Pritchett Street. Here they introduced the manufacturing of aluminium car accessories and aluminium kitchen utensils. In 1929 the aluminium part of the business was sold to concentrate on sprayers and beekeeping equipment.

Testar and Swain Limited was formed on 29th January 1920 when it took over the business started in 1906. *(Companies House)*.

Thomas Anthony Testar the son of Charles Testar was involved with the firm, but he was killed aged 27 in Burma on 23 Feb 1945 during WW II. From 1936 to 1946 the business was run by J Granville Webb.

The SOVEREIGN sprayer was advertised in 1917 but was probably available before that. The SLAYER was introduced in 1944 and was the brainchild of Mr H E Newton Mason. In 1960 the KILLASPRAY was introduced. Originally, it had a plastic body with a tinplate pump. Later it became all plastic. The company name was changed to ASL Airflow in 1978. See the Chapter on W T French.

It would seem that the firm was producing tinplate sprayers from the early days. However, unlike the brass sprayers they do not survive well. The sprayers were good sellers and a major export product. From the available advertisements its seems that they did not change a great deal until the introduction of plastics. Even then the designs remained similar with plastic replacing the metal components. Similar sprayers sold under the ASL brand are included in the chapter on W T French.

Models - BLUE SHIELD, GOLD SHIELD, KILLASPRAY, RED SHIELD, SLAYER, SOVEREIGN.

Testar & Swain Ltd

Above :- [098] {2} SOVEREIGN RED SHIELD sprayer. Tinplate painted green. Barrel length 17½ inches with a diameter of 1⅝ inches. Fixed rose nozzle. Solid steel piston rod ¼ inch in length. Piston is back-to-back leather cup washers. Barrel end cap is made of wood.

Above :- [361] {2} SOVEREIGN GOLD SHIELD sprayer. Tinplate with gold coloured finish. Barrel length 15 inches and diameter 1⅜ inches. Fixed spray head with integrated fast fill valve controlled by a stud with a nipple. Solid steel piston rod ¼ inch in length. Piston is back-to-back leather cup washers. Barrel end cap is made of wood.

Above :- [361] {2} SOVEREIGN GOLD SHIELD sprayer. Tinplate with gold coloured finish. Barrel length 15 inches and diameter 1⅜ inches. Fixed spray head with integrated fast fill valve controlled by a stud with a nipple. Solid steel piston rod ¼ inch in length. Piston is back-to-back leather cup washers. Barrel end cap is made of wood. Includes box.

Above :- [361] {2} SOVEREIGN GOLD SHIELD sprayer. Yellow plastic with silver printing. Barrel length 15 inches and diameter 1⅜ inches. Fixed spray head with integrated fast fill valve controlled by a stud with a nipple. Solid steel piston rod ¼ inch in length. Piston is back-to-back leather cup washers. The barrel end cap is made of wood.

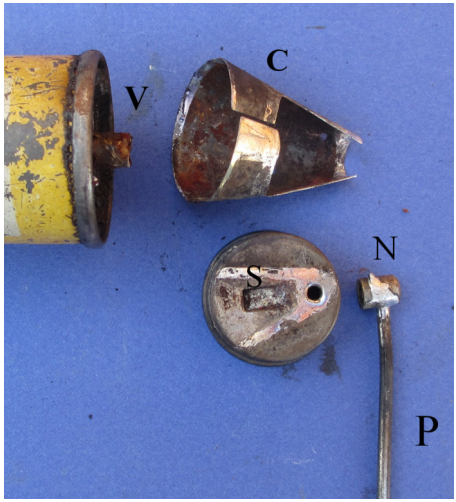
Testar & Swain Ltd

Above :- [645] {2} SLAYER continuous action sprayer. Tinplate painted in blue and yellow. The air pump provides pressure to the container and also some air flows directly to the nozzles where it mixes with the liquid from the container producing a fine atomized spray. Air pump barrel is made of tinplate. It is 10 inches long with a diameter of 1⅜ inches. The piston rod is solid steel ¼ inch in diameter. The piston is a single forward facing cup washer. The barrel end cap is made of wood. Container 2¼ inches high with a diameter of 3 inches. Capacity ½ pint.

Above :- [644] {2} SLAYER continuous action sprayer. Barrel tinplate painted in blue, red and yellow. The barrel is 10 inches long with a diameter of 1⅜ inches. The piston rod is solid steel ¼ inch in diameter. The piston is a single forward facing cup washer. The barrel end cap is made of wood. The container is made of yellow plastic and is 2¼ inches high with a diameter of 3 inches. Capacity ½ pint.

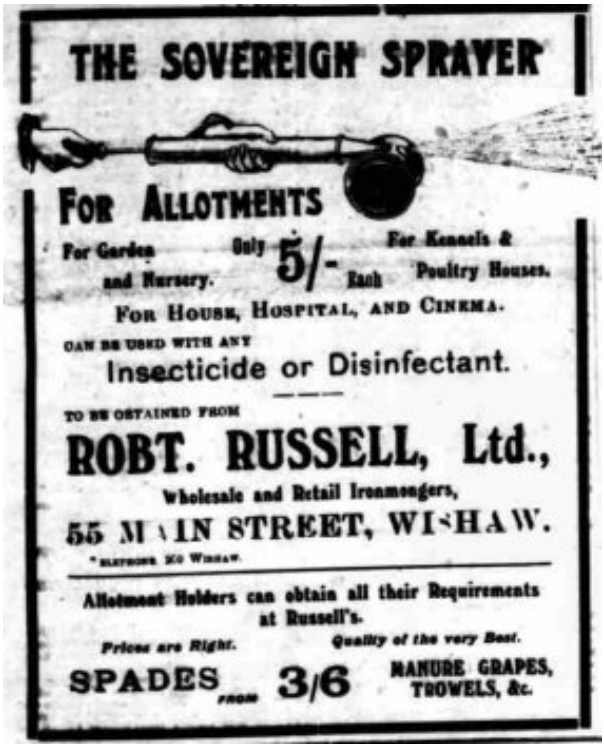
Above/left :- The components of the sprayer. Top left the pipe from the liquid to the nozzle. This also shows the slot where air enters to pressurize the container. Below this a different view of the outlet pipe. Left is the valve on the air pump. This is controlled by a ball which can just be seen.

Testar & Swain Ltd



Left :- Disassembled components. V is the ball valve. C the cowl. S the cap. N the nozzle and P the output pipe. Air compressed by the pump passes into the cowl. Some air then passes through the vent in the cap. This pressurises the air in the container which forces liquid up pipe P and out of nozzle N. Some air passes directly through the nozzle. This mixes with the liquid to form a fine spray. On the pull stroke compressed air in the container continues to force liquid up pipe P, and some compressed air passes through the slot in the cap. The result is a continuous spray.

Advertisement 1918.



Testar & Swain Ltd

Advertisement 1945. Copyright Graces Guide to British Industrial History.

Testar & Swain Ltd

Advertisement 1938. Copyright Graces Guide to British Industrial History.

Sell only the Genuine "SOVEREIGN" SPRAYER

Registered

"TESWAIN"

Trade Mark

Made in Tinplate, Galvanized, Japanned or Brass.

All sprayers are now equipped with the Patent Screw Fitment enabling the sprayer to be easily cleaned and inspected. Ideal for Garden use.

All Sprayers and Syringes are packed in CARTONS and free Crates.

ORDER TODAY FROM YOUR USUAL FACTOR.

SOLE MAKERS :

TESTAR & SWAIN, LTD.

Florence Works, Pritchett St., Birmingham, 6

London Office : 83 Queen Victoria Street, E.C.4

Phone : Central 6660 & 4966

(44)

Testar & Swain Ltd

Testar & Swain Ltd

Advertisement 1951. Copyright Graces Guide to British Industrial History.

Chapter 41

Townson & Coxson Ltd

Townson & Coxson Ltd

Townson & Coxson Ltd

Essington Street, Birmingham

Known to be operating in 1921 and from advertisements. Became a subsidiary of Clear Hooters around 1974. As well as sprayers they also made portable stoves, gas rings, blowlamps and gas fittings.

Brands - BURMEX and BURMOS

Above :- [265] Probably a Donald Edwards sprayer. However, a sprayer of the same design is known to have been sold with the BURMEX logo (left|). Container height 6 inches and diameter 4 inches. Capacity 1½ pints. Spray nozzle. Lever action on/off control. Plastic plunger knob and plastic handle on container. Internal barrel length 5 inches and diameter ⅞ inch. Single cup washer piston. Solid brass piston rod ¼ in diameter.

Townson & Coxson Ltd

Above :- [578] Pneumatic pressure sprayer. Height 6 inches and diameter 4 inches. Capacity 1½ pints. Spray nozzle. Lever action on/off control. Plastic plunger knob. Metal handle on container. Internal barrel length 5 inches and diameter ⅞ inch. Single cup washer piston. Solid brass piston rod ¼ in diameter. This form of the sprayer is also known with the BURMEX logo.

Left :- Valve is a small piston which works against a spring.

Townson & Coxson Ltd

Advertisement 1951 - Copyright Grace's Guide to British Industrial History.

Chapter 42

J Tylor & Sons Ltd

J Tylor & Sons Ltd

J. Tylor and Sons

History - Based on Graces Guide to British Industrial History (copyright).

75 Wood Street, London (1778-93.

3 Cripplegate Buildings (1794-1828).

College of Physicians, Warwick Lane (later called 2 Newgate Street) (1829-91).

2 Newgate Street and Belle Isle, King's Cross (1892-1907).

Belle Isle and 232 Tottenham Court Road (1908-56).

Burgess Hill, Sussex from 1956.

J. Tylor and Sons Ltd were sanitary engineers, brassfounders, pump and petrol engine manufacturers. In 1768/78 the Company was established by John Tylor, a Quaker, who was free of the Armourers' and Brasiers' Company in 1778. At first the company specialised in manufacturing tea-urns but gradually expanded its range of items. In the late 19th century J Tylor and Sons were known as hydraulic and sanitary engineers and brassfounders and produced sprayers, water meters, diving suits, soda syphons and urinals as well as many other items. The company appears to have responded quickly to new and growing markets and to have dropped unprofitable lines. In 1892 The firm became a limited company, known as J Tylor and Sons Ltd. On 10 May 1898 the company was registered to take over an engineering business of the same name. In the 20th century a line of bathroom requisites was developed, then the company became involved in the motor trade. The company was in financial difficulties in the 1920 but continued in various forms until the 1950s

J Tylor and Sons have a number of patents but none I am aware of relating to sprayers. Advertisements for sprayers including syringes date back to 1850, They are mentioned in various gardening publications during the 1850s but not latter. This plus the fact that actual examples are very rare suggests that sprayers were not part, or at least not a major part, of the business at the end of the 19th Century.

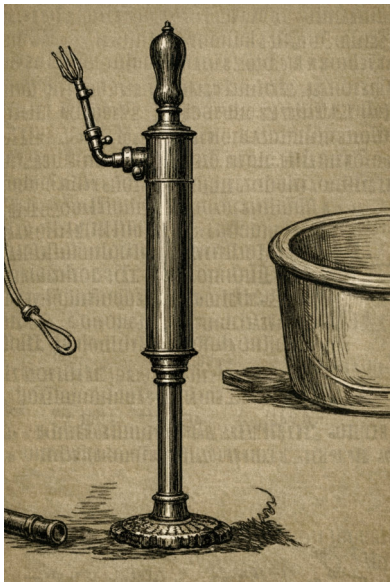
J Tylor & Son

Above :- [430] {4} Plate with REGISTERED No. 2755 TYLOR AND SONS LONDON. I believe this to be a registered design and if so, it would date to 1851. The fact that the plate does not include Ltd also suggests that the sprayer is of an early date. Barrel length 18 inches with a diameter of 1½ inches. Hollow brass piston rod ⅜ inches in diameter. Cotton reel type piston ½ inch in length. The nozzle is not complete. It is on a up/down swivel. A drawing in a Royal Botanic Society publication shows a similar syringe with a rose nozzle.

Other Sprayers

Various pamphlets and advertisements show that the company manufactured a variety of sprayers. At 1850 advertisement shows two garden engines, a self supplying sprayer and seven syringes. A catalogue for Tylor & Sons is held by Westminster Council (RBSY/RBS/14/85). Drawings in other books shows a continuous action sprayer being used to clean a greenhouse.

Right :- 1851 illustration



J Tylor & Sons

Advertisement 1850 (Similar in 1862)

GARDEN ENGINES AND SYRINGES.

J. TYLOR AND SONS, Warwick Lane, Newgate Street, London, E.C., beg to call attention to their very superior manufacture of GARDEN ENGINES and SYRINGES.

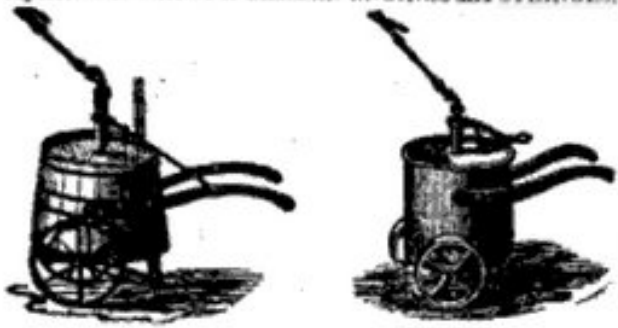


Fig. 596. J. TYLOR & SONS' BARROW GARDEN ENGINE in best well painted Oak tub, fitted with J. TYLOR & SONS' Improved Brass Pump, Universal Joint, and Registered Spreader, which answers the purpose of the separate rose, fan, and jet.

CONTENTS OF TUB:—

10 gallons	15 gallons	28 gallons
£4 10 0	£5 10 0	£6 18 0

Fig. 599. do. TINNED IRON TUB.

CONTENTS OF TUB:—

8 gallons	12 gallons	16 gallons	24 gallons	30 gallons
£2 15	£3 5	£4	£5	£5 18

Fig. 618. No. 1. REGISTERED SYRINGE, with India-rubber suction tube, one rose and jet .. .. £1 5 each.
No. 2. Ditto ditto 1 1 ,,
Telescope Branch Pipe for ditto .. .. 0 10 ,,

Fig. 619. GARDEN SYRINGE, with one rose and jet, 12s. 6d. each
,, 620. Ditto ditto 11s. 6d. ,,
,, 621. Ditto ditto 10s. 6d. ,,
,, 622. LADIES' GARDEN SYRINGE, with one rose & jet, 6s.

Fig. 623. READ'S SYRINGE, with two roses and one jet, 18s. 6d.
,, 624. READ'S SYRINGE, with one rose and jet .. 16 6
,, 625. Improved ditto ditto .. 14 6
,, 626. Ditto ditto ditto .. 13 0

Manufacturers of Pumps and Well Engines (for shallow or deep Wells), Plumbers' Brass Foundry of every description. High Pressure Cocks and Closets, Copper and Tinned-iron Baths, Garden and Fire Engines, Lamps of every description, Copper Goods, &c. Estimates given for Hot-water and Bath Apparatus

J Tylor & Sons

Advertisement 1857

(Fig. 1.)

(Fig. 2.)

J. TYLOR AND SON'S BARROW GARDEN ENGINE (Fig. 1), in best well painted Oak tub, fitted with improved Pump, universal joint, and registered Spreader, which answers the purpose of the separate rose fan and jet.

No. 1 holds 10 gallons, throws 30 feet high	...	£	10
No. 2	15	"	"	45	"	...	8	10
No. 3	28	"	"	45	"	...	6	18

J. TYLOR AND SON'S BARROW GARDEN ENGINE (Fig. 2), in strong tinned iron tub, well painted inside and outside, with improved Pump, universal joint, and registered Spreader, which answers the purpose of the separate rose fan and jet.

No. 10 holds 8 gallons, throws 25 feet high	...	£2	15
No. 13	12	"	"	30	"	...	3	5
No. 11	16	"	"	40	"	...	4	0
No. 12	24	"	"	45	"	...	5	0
No. 14	30	"	"	45	"	...	5	18

A large assortment of every description of Garden Syringes, Fall Engines, Conservatory Pumps, &c., kept in Stock.

No. 1, Plain Syringe, with rose and jet, diameter of barrel, 1⅛ inch, 14s. 3d.; No. 2, do., diameter of barrel, 1¼ inch, 12s.; No. 3, do., diameter of barrel, 1⅜ inch, 10s. 6d.

READ'S SYRINGE, with two roses and one jet, 19s.

J. TYLOR & SON'S Horticultural Apparatus may be obtained at these prices from any respectable Ironmonger or Seedsman in town or country, through whom alone they will be supplied, and of whom Drawings and Prices may be had.

N.B. Cost of carriage, &c., not included in these prices.

J. TYLOR & SON'S Manufactory, Warwick Lane, Newgate Street, London.

Chapter 43

The Vento Manufacturing Co

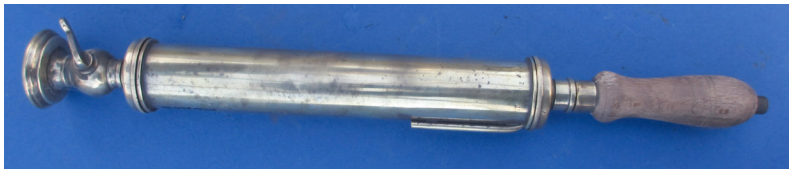
The Vento Manufacturing Co

The Vento Manufacturing Co - 104 and 106 Colmore Row, Birmingham. This seems to have been a postal address and not the address of a workshop. In 1910 the company is recorded as brassfounders at 25A Witton Road, Birmingham.

The basis of the firm seems to have been patent GB190802542A applied for 5 February 1908 by Thomas Wyatt and William McNab. The patent was accepted on 21 January 1909, but not granted because the sealing fee was not paid. The patent was for a self supplying sprayer with the inlet via a hollow piston rod. The patent also covers a nozzle which could be changed from a spray to a jet by turning a tap positioned between the front of the barrel and the nozzle.

Advertisements appear in various newspapers in 1908 stating that the patent was pending. For example, an illustrated advert appears in the West Sussex Times and Standard dated 12 September 1908. On 2 September 1909 there is an illustrated advert in the Gardening section of the Daily Telegraph. Here is it is available in the standard form and also with a swivel head. In both advertisements the sprayer illustrated looks a little different from the example below. This may just be down to the poor quality of the newspaper drawing.

The address on the patent is the same as the address given in the advertisements so it is assumed that The Vento Manufacturing Co was set up by Thomas Wyatt and William McNab. After 1909 there appears to be no further advertisements, but there is a record for a 1910 address.



Above :- [740] {5} The Vento self supplying sprayer. Barrel length 9 inches and diameter 1½ inches. Note the pipe leading from the air vent not mentioned in the patent. A rubber hose with a strainer at the end would have been connected to the hollow piston where it exists the handle. There were three valves. All appear to have been a simple rubber flap. There was a valve in the strainer; one at the end of the piston and one at the front end of the barrel.

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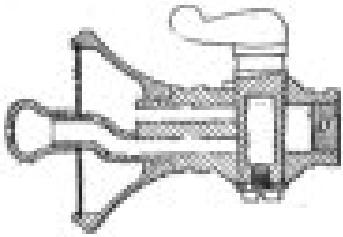
The Vento Manufacturing Co

Below :- Vento nozzle. The tap was three way. Either off, directing the liquid through a jet nozzle, or directing liquid through a rose nozzle. The piston appears to have been a front facing single leather cup washer.



Left :- A drawing of the strainer showing the flap valve. The sprayer was advertised as being supplied with 4ft of rubber hose, but being capable of drawing water 60ft. Price in 1908 was 12s 6d.

Chapter 44

Philip B Waldron & Co Ltd

Philip B Waldron & Co Ltd

Philip B Waldron & Co Ltd

Kings Road, Tyseley Birmingham.

History

This company appears to have started life called Service Castings Company Ltd and was first registered on 7 April 1933 with a nominal capital of £1000; their address was 174 Kings Road, Tyseley, Birmingham. This company did not appear to prosper and on 7 May 1934 seems to have gone into receivership. Phillip Waldron was a salesman with W T French but after a disagreement with A W French decided to strike off on his own and by 2nd January 1940 had acquired Service Castings Co. The manufacture of sprayers does not seem to start until this time.

Kelly's Directory for 1944 and other contemporary publications show the business using the title Philip B Waldron Co and the trade name of Dronwal. However, it wasn't until 1966 that a memorandum of association shows the name of the company being officially changed from Service Castings Ltd to Philip B Waldron Co Ltd. Early in 1971 the company was purchased by the Willcox Group (P L Willcox Ltd) a company engaged in the making of gas machines, tool accessories and coolant equipment. *(Birmingham Daily Post 22 Feb 1973)*. A new company Polyguard-Dron-Wal was set up to distribute the garden range. The Willcox Group also appeared to have used Philip B Waldron Co Ltd to manufacture machine tool cooling equipment along with spraying machines etc. 1977 saw the purchase of the remains of the Four Oaks Spraying Machine Company and they soon started selling the Kent range of large pneumatic sprayers with capacities ranging from 1 to 3 gallons. The new organization lasted until 10 December 1992 when Joint Administrative Receivers working for Touche Ross were called in. The business appeared to be run by the receivers until April 1995 until it was dissolved in 1997.

How long sprayers were made for is not exactly known. However, in 1977 they produced a small pneumatic sprayer with a transfer commemorating the Queens Silver Jubilee. There is a newspaper advertisement for this sprayer in 1978 *(Illustrated London News dated 2 November 1978)*. After this I cannot find any mentions of Dron-Wal sprayers.

Philip B Waldron & Co Ltd

Brand/Trademark DRON-WAL. **Models** CHAMPION, HANDY, MAGNA SUPREME, MASTER, REGENT, TRIUMPH.

Products

Sprayers and Syringes, Oil Bilge and Caravan Pumps, Sprinklers, Hose Fittings, Weed Eradicators, Powder Blowers, Foot Ball Inflators, Fire Pump, Veterinary and Medical Syringes, and Butchers Salting Syringes. I am covering below the sprayers and syringes based both on documentation and actual example in my collection. The other products are briefly covered either where I have examples or from documentation in cases where I think this is useful in understanding the company.

Catalogue and Advertising

The following information has been available to me:

Benn's Encyclopaedia of Hardware 1944. Advertisement.
Benn's Encyclopaedia of Hardware 1947. Advertisement.
Dron-Wal catalogue No. 58 Dated May 1959
Benn's Encyclopaedia of Hardware 1960. Advertisement.
Dron-Wal price list 1968.
Dron-Wal catalogue No. 65. Circa 1969
Dron-Wal price list 1969.
Dron-Wal price list 1972
Various advertisements from Grace's Guide to British Industrial History dating from 1945 to 1961.

There are no entries for the company in Benn's Encyclopaedia of Hardware for 1930 or 1939.

Patents

Philip Bradford Waldron has several patents. Those related to sprayers are listed below.

GB626777A - Philip Bradford Waldron. Applied for 17 April 1947 and published 21 July 1949. Diaphragm pump improvements.
GB689130A - Philip Bradford Waldron. Applied for 17 November 1950 and published 18 March 1953.
GB692314A - Philip Bradford Waldron. Applied 17 November 1950 and published 3 June 1953. Fan spray nozzle.

Philip B Waldron & Co Ltd

GB704475A - Philip Bradford Waldron. Applied for 24 May 1951 and published 24 February 1954. Knapsack sprayer improvements.
GB794599A - Philip Bradford Waldron. Applied for 21 September 1955 and published 7 May 1958. For the use of a rubber 'O' ring in an adjustable nozzle.

Sprayers

According to the 1978 newspaper article the small pneumatic had been in production since 1930. Apart from this there is no evidence that sprayer production was a major part of the business until post WW II when they made a concerted effort with their publicity. From 1946 to catalogue 65 (circa 1969) it would appear that many of the products remain unchanged. Dron-Wal does not seem to have moved to plastics to any great extent. In the latter years they appear to have reduced their range. The sprayers included syringes, knapsack sprayers, backpack sprayers, bucket sprayers, pneumatic sprayers, self supplying sprayers, vaporisers, hand sprayers, and stirrup pumps. I have used the 1959 catalogue as the basis for the following as this was the time with the widest range of models,

The following table shows all the sprayers I am aware of with their type and the earliest/latest date for which I have documentation.

Model	Type	Earliest Date	Latest Date	Notes
0	Bucket sprayer	1959	1972	
1	Knapsack	1944	1950	
1 Fire Pump	Fire pump	1959	1968	EMPIRE
2	Bucket sprayer	1959	1972	
2P	Small pneumatic	1959	1972	6pt discontinued
3	Brass knapsack	1972	1972	
3P	Small pneumatic	1959	1972	
4	Bucket sprayer	1959	1972	
5	Bucket pump	1959	1972	
5P	Small pneumatic	1952	1979	See also 51

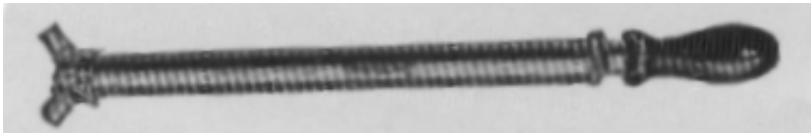
Philip B Waldron & Co Ltd

Model	Type	Earliest Date	Latest Date	Notes
5P/T (with bend)	Small pneumatic	1952	1979	
6	Bucket pump	1959	1972	
7	Mobile Pump	1959	1968	Discontinued 1972
8	Pneumatic sprayer	1944	1968	
8/2	Pneumatic sprayer		1972	1¼ gallon
8/3	Pneumatic sprayer		1972	2 gallon
8/4	Pneumatic sprayer		1972	2½ gallon
8F	Syringe	1959	1972	
50	Spray Pump	1959	1972	CITADEL
51	Small pneumatic	1933	1945	I
1004	Syringe	1959	1972	I expect a mistake in numbering in the 1944 advert.
1005	Syringe	1959	1972	1" x 14 discontinued 1968
1006	Syringe	1944	1972	1" x 20" discontinued 1968
1007	Syringe	1944	1972	
1008	Syringe	1944	1944	
1008B	Syringe	1959	1959	
1009	Syringe	1959	1972	
1010	Syringe	1959	1972	
1012	Syringe	1969	1972	
1033	Stirrup pump	1969	1972	
1034	Stirrup pump	1959	1972	
1034A	Stirrup pump	1959	1972	
1035	Stirrup pump	1959	1969	
1037	Stirrup pump	1959	1967	PREMIER
1038	Continuous action	1969	1972	MAGNA SUPREME
1039	Continuous action	1959	1972	REGENT
1040	Continuous action	1940	1940	SUPREME

Philip B Waldron & Co Ltd

Model	Type	Earliest Date	Latest Date	Notes
1041	Double action	1959	1972	TRIUMPH
1042	Continuous Action	1944	1972	HANDY
1043	Continuous Action	1939	1959	
1050	Syringe	1959	1959	
1051	Syringe	1959	1959	
1080	Continuous Action Hand	1959	1959	
1081	Vaporizer	1959	1959	
1099	Fly Spray	1959	**1959**	
1101/1	Syringe	1959	1968	
1102/1	Syringe	1959	1968	
1555	Plastic Pneumatic	1968	1968	CHAMPION

Syringes



Above :- Model 8F - Advertised as a flower spray syringe. Barrel length 9 inches with a diameter of ⅞ inch.

Above :- [010] {1} Model 1004. Barrel length 16 inches with a diameter of ⅞ inch. Engraved "A DRON-WAL PRODUCT MADE IN BIRMINGHAM ENGLAND". Removable bend with a spray nozzle with a separate fast-fill valve. The valve is held in place with a screw fitting. Rose nozzle and holder for nozzle not in use. Hollow brass piston rod ⅜ inch in diameter with buffer washer. Collar on nozzle end of barrel only. Piston is leather back-to-back cup washers. Some syringe models in the 1945 advertisement are incorrectly labelled.

Left :- Inside of spray head. Fast-fill valve on left.

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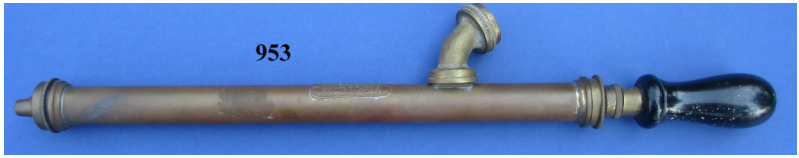
Above :- [282] {1} Model 1005. Barrel length 20 inches with a diameter of 1 inch. Metal plate reading "DRON-WAL THE EMBLEM OF QUALITY FOR SYRINGES SPRAYERS LIMEWASHING MACHINES OF EVERY DESCRIPTION No. THE PHILIP B WALDRON CO TYSELEY BIRMINGHAM. Brass with a gold lacquer finish. Removable bend. Spray nozzle with a separate fast-fill valve controlled by a ball. The valve is held in place with a removable screw fitting. Rose nozzle and holder for nozzle not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter with buffer washer. Both ends of the barrel have a collar. Piston is leather back-to-back cup washers.



Above :- [953] {4} Model 1005. Barrel length 14 inches with a diameter of 1 inch. Metal plate. Brass with a gold lacquer finish. Removable bend. Spray nozzle with a separate fast-fill valve controlled by a ball. The valve is held in place with a removable screw fitting. Rose nozzle and holder for nozzle not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Both ends of the barrel have a collar. Piston is leather back-to-back cup washers. This appears to be the 14 inch version of 1005 which was discontinued in 1968.

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Above :- [207] Similar to Model 1005. Barrel length 16 inches with a diameter of ⅞ inch. Identified from DRON-WAL on barrel. Removable bend. Spray nozzle with a separate fast-fill valve. The ball valve is held in place with a removable screw fitting. Rose nozzle and holder for nozzle not in use. Hollow brass piston rod ⅜ inch in diameter. Collar on nozzle end of barrel only. Piston is leather back-to-back cup washers.

Above :- [143] {2} Model 1006. DRONWAL on manufacturer's plate. Barrel length 16 inches with a diameter of ⅞ inch. Purser type drip preventer 6 inches long. Spray nozzle with a separate fast-fill valve controlled by a ball. Rose nozzle. Holder on the drip preventer for nozzle not in use. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. Collar only on nozzle end of barrel.

Above :- [292] {2} Model 1006. The manufacturer's plate reads "ALL BRITISH MADE A DRON-WAL PRODUCT FULLY GUARANTEED. Barrel length 16 inches with a diameter of ⅞ inch. Purser type drip preventer 6 inches long. Spray nozzle with a separate fast-fill valve controlled by a ball held in by a fixed bar. Rose nozzle. Holder on the drip preventer for nozzle not in use. Hollow brass piston rod ⅜ inch in diameter. Back-to-back leather cup washer piston. Collar only on nozzle end of barrel. Handle replaced.

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Above :- [464] {2} Model 1006. See below for the manufacturer's plate. Barrel length 14 inches with a diameter of 1 inch. Purser type drip preventer 6 inches long. Spray nozzle with a separate fast-fill valve controlled by a ball Rose nozzle. Holder on the drip preventer for nozzle not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Back-to-back leather cup washer piston. Both ends of the barrel have a collar.

Above :- [083] {2} Model 1006. Manufacturer's plate as above. Barrel length 14 inches with a diameter of 1 inch. Purser type drip preventer 6 inches long. Spray nozzle with a separate fast-fill valve controlled by a ball. The screw holding in the ball is unusual. Rose nozzle and bend. Holder on the drip preventer for nozzle not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Back-to-back leather cup washer piston. Both ends of the barrel have a collar.

Above :- [169] {2} Model 1006. Manufacturer's plate as above. Barrel length 14 inches with a diameter of 1 inch. Purser type drip preventer 6 inches long. Spray nozzle with a separate fast-fill valve controlled by a ball. Rose nozzle and bend. Holder on the drip preventer for nozzle not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ inch long. Both ends of the barrel have a collar.

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Above :- [781] {2} Model 1006 or similar. The manufacturer's plate reads "DRON-WAL THE EMBLEM OF QUALITY FOR SYRINGES SPRAYERS LIMEWASHING MACHINES OF EVERY DESCRIPTION No. THE PHILIP B WALDRON CO TYSELEY BIRMINGHAM". Barrel length 16 inches with a diameter of 1¼ inches. Purser type drip preventer 8 inches long. Spray nozzle. Bend (not marked DRONWAL) and rose nozzle. Holder on the drip preventer for nozzle not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ in length. Both ends of the barrel have a collar.

Above :- [489] {2} Model 1006 or similar. The manufacturer's plate reads "DRON-WAL THE EMBLEM OF QUALITY FOR SYRINGES SPRAYERS LIMEWASHING MACHINES OF EVERY DESCRIPTION No. THE PHILIP B WALDRON CO TYSELEY BIRMINGHAM". Barrel length 20 inches with a diameter of 1¼ inches. Purser type drip preventer 8 inches long. Spray nozzle missing. Replaced in above photograph with one from another sprayer. Rose nozzle. Holder on the drip preventer for nozzle not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Back-to-back leather cup washer piston. Collars on both ends of barrel.

Above :- [244] {2} Model 1007. Barrel length 20 inches with a diameter of 1 inch. Metal plate reading "DRON-WAL THE EMBLEM OF QUALITY FOR SYRINGES SPRAYERS LIMEWASHING MACHINES OF EVERY DESCRIPTION No. THE PHILIP B WALDRON CO TYSELEY BIRMINGHAM. DRON-WAL on bend. Purser type drip preventer 9 inches long. Spray nozzle with separate fast-fill valve controlled by a ball (see left). Three spray caps. Rose nozzle. Holders on drip preventer for nozzle and caps not in use. Hollow brass piston $^{7}/_{16}$ inch in diameter with buffer washer. Collar on both ends of barrel. Piston is leather back-to-back cup washers. This appears to be the version advertised in 1944 and in the latter catalogues. Collection No. [453] is the same but missing parts.

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Above :- [149] {3} Model 1007. Barrel length 20 inches with a diameter of 1 inch. Metal plate reading "DRON-WAL THE EMBLEM OF QUALITY FOR SYRINGES SPRAYERS LIMEWASHING MACHINES OF EVERY DESCRIPTION No. THE PHILIP B WALDRON CO TYSELEY BIRMINGHAM. Purser type drip preventer 9 inches long. Spray nozzle with separate fast-fill valve controlled by a ball. Two spray caps. Rose and jet nozzles. Holders for nozzle and caps not in use. Hollow brass piston $^{7}/_{16}$ inch in diameter with buffer washer. Collar on both ends of barrel. Piston is of the cotton reel type ½ inch long. This appears to be earlier than the previous sprayer [244].

Left :- The inside of the spray nozzle. Fast-fill valve bottom right.

Right :- A comparison of the spray nozzles. This sprayer on the left [149] and previous [244].

Above :- [020] {2} Short version of model 1007. Barrel length 14 inches with a diameter of 1 inch. Metal plate reading "TRADE MARK DRON-WAL SYRINGES & SPRAYERS BRITISH MADE FULLY GUARANTEED". Purser type drip preventer 6 inches long. Spray nozzle with separate fast-fill valve controlled by a ball. Two spray caps. Rose nozzle and jet nozzle. Holders for nozzle and caps not in use. Hollow brass piston $^{7}/_{16}$ inch in diameter. Collar on both ends of barrel. Piston is of the cotton reel type ½ inch long. A syringe of this type and length does not appear in catalogues after 1956.

Left :- [20] Spray head. On the left is the nozzle viewed from the top with the cap removed from the spray. Note that it does not have a spray plug but just two small holes. The spray cap (top) is exchangeable with two different sizes being provided (one missing in this sprayer). The ball and retaining screw of the fast-fill valve are on the right.

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Above :- [452] {2} Short version of model 1007. Barrel length 14 inches with a diameter of 1 inch. Metal plate reading "ALL BRITISH MADE A DRONWAL PRODUCT FULLY GUARANTEED". Purser type drip preventer 6 inches long. Spray nozzle with separate fast-fill valve controlled by a ball. Two spray caps. Rose nozzle. Holders for nozzle and caps not in use. Hollow brass piston $^{7}/_{16}$ inch in diameter. Collar on both ends of barrel. Piston is of the cotton reel type ½ inch long.

Left :- The inside of the spray cap. Fast-fill valve is at the bottom.

Right :- The manufacturer's plate.

Above :- [133] {3} Version of model 1007. Barrel length 14 inches with a diameter of 1¼ inches. Metal plate reading "DRON-WAL THE EMBLEM OF QUALITY FOR SYRINGES SPRAYERS LIMEWASHING MACHINES OF EVERY DESCRIPTION No. THE PHILIP B WALDRON CO TYSELEY BIRMINGHAM". Purser type drip preventer 6 inches long. Spray nozzle with separate fast-fill valve controlled by a ball. Two spray caps. Rose and jet nozzle. Holders for nozzle and caps not in use. Hollow brass piston $^{7}/_{16}$ inch in diameter. Collar on both ends of barrel. Piston is of the cotton reel type ½ inch long.

Above :- [654] The same as [133] but with a barrel diameter of 1 inch.

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Above :- [009] {2} Possibly a version of 1008B. Barrel length 12 inches with a diameter of ⅞ inch. Engraved on barrel "A DRON-WAL PRODUCT". Spray nozzle with separate fast-fill valve (left) controlled by a ball. Solid steel piston rod ¼ inch in diameter. Piston is leather back-to-back cup washers. DRON-WAL embossed on spray head.

Above :- [449] Similar to above. Barrel length 12 inches with a diameter of ⅞ inch. Handle is not original. DRON-WAL not on spray head.

Above :- [209] {2} Model 1009. Barrel length 16 inches with a diameter of ⅞ inch. Engraved on barrel "A DRON-WAL PRODUCT MADE IN BIRMINGHAM. Fixed bend. Spray nozzle with fast-fill valve (right) controlled by a ball. Solid steel piston rod ¼ inch in diameter, No collars. Piston is leather back-to-back cup washers. Cardboard box.

Above :- [034] {2} Model 1009. Barrel length 16 inches with a diameter of ⅞ inch. DRON-WAL on spray head. Fixed bend. Spray nozzle with fast-fill valve (left) controlled by a ball. Solid steel piston rod ¼ inch in diameter, No collars. Piston is leather back-to-back cup washers. Collection No. [229] is the same.

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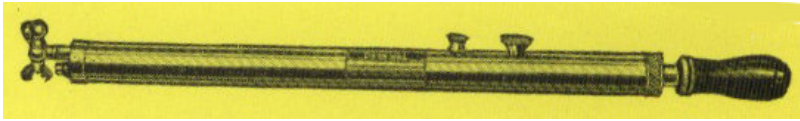
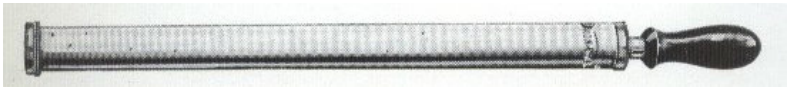
Above :- [290] {2} Model 1010. Barrel length 16 inches with a diameter of $^{7}/_{8}$ inch. The syringe has no manufacturer's identification and is identified only from the box. However, syringes of this model with engraved DRON-WAL are known. Solid steel piston rod ¼ inch in diameter. Removable spray nozzle with separate fast-fill valve with the ball held in by a fixed bar. Model 1008 seems to have been a shorter version of this sprayer.



Above :- Illustration of Model 1012.

Above :- [988] {5} Model 1012. Barrel length 20 inches with a diameter of 1¼ inches. Barrel engraved DRON-WAL MADE IN ENGLAND. No collar. Swivel spray head with rose and two spray attachments. Fast-fill valve controlled by a ball held in with a spring. Filter build into fast-fill valve. Hollow brass piston rod ⅜ inch in diameter with a back-to-back leather cup washer piston.



Above : Model 1050. Barrel length 18 inches with a diameter of 1½ inches. Stamped fittings. Piston is back-to-back leather cup washers. Fine rose. This seems to have been available for only a short while.

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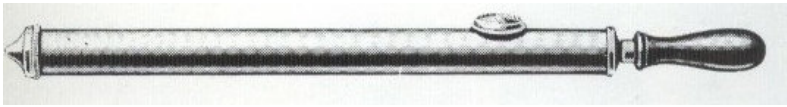
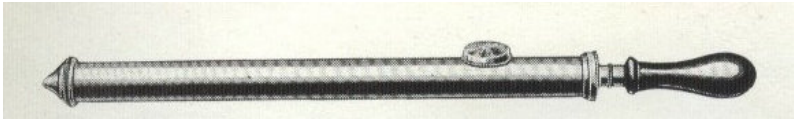


Above :- Model 1051. Available in two sizes. Barrel length 16 inches with a diameter of 1½ inches and barrel length 18 inches with a diameter of 1½ inches. Stamped fittings. Piston is back-to-back leather cup washers. Fine rose and jet with holder on barrel for nozzle not in use. This seems to have been available for only a short while.

Above :- [522] {2} Model 1101/1. and Barrel length 18 inches with a diameter of 1½ inches. Piston is back-to-back leather cup washers. Rose and jet nozzles with holder on barrel for nozzle not in use. This syringe does not have collars on the barrel end cap with the barrel end cap screwing directly onto a thread on the barrel. In 1956 in two sizes. Also available with a barrel length 16 inches with a diameter of 1¼ inches.



Above :- Model 1102/1. Available in 1956 in two sizes. Barrel length 16 inches with a diameter of 1¼ inches and barrel length 18 inches with a diameter of 1½ inches. Piston is back-to-back leather cup washers. Rose and jet nozzles with holder on barrel for nozzle not in use. This syringe appears to have a collar on the barrel end cap and to be of a more robust construction than 1101/1.

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Self Supplying - Single Action

Above :- Self supplying sprayer with pressure chamber. Brass manufacturer's plate which reads DRON- WAL THE EMBLEM OF QUALITY FOR SYRINGES SPRAYERS LIMEWASHING MACHINES OF EVERY DESCRIPTION .NO.???? THE PHILIP E. WALDRON CO. This sprayers has not been examined. It appears to be a single action self supplying sprayer with a air chamber, and an early version of the model 1043 covered below. It may predate the 1938/9 registered design.

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Above :- [613] {3} Model 1043. Self supplying sprayer with pressure chamber. Brass manufacturer's plate which reads "DRON- WAL No. 1043 CONTINUOUS ACTION SPRAYER REGdD DESIGN No, 831608". Barrel length 8 inches and diameter 1 inch. Brass container height 3¼ inches and diameter 3 inches. Swivel spray nozzle. Additional nozzle one of which is a jet. Piston rod is hollow brass $^{5}/_{16}$ inch in diameter. The piston is a single forward facing cup washer. Piston valve is controlled by a brass ball held in with a split pin. There is a front valve but this is not accessible. There is no input valve so there must originally have been a strainer with a valve. The hose and strainer are missing. The catalogue in 1959 illustrates this sprayer with a lance. The registered design dates to 1938/9. The cylindrical pressure chamber is 3 inches in diameter and 3¼ inches in length. A tube runs from the bottom of the cylinder to the nozzle.

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Above :- [247] {2} Model 1042 HANDY SPRAYING OUTFIT. Self supplying sprayer. "A DRON-WAL PRODUCT" engraved on barrel. Barrel length 12 inches and diameter 1 inch. Lance 12 inches long. Swivel spray nozzle. Two nozzle caps for spray plus a rose nozzle. Piston rod is hollow brass $^{5}/_{16}$ inch in diameter. Piston is a single forward facing cup washer. Piston valve is controlled by a brass ball held in with a split pin. There is no front or rear valve in the barrel. The sprayer would still work with just the piston valve and the valve in the strainer. The plastic hose is 5ft in length. There is a strainer with a ball valve.

Self Supplying - Double Action

Unlike single action sprayers, double action sprayers spray on both the push and pull strokes with the user powering both strokes. This differs from continuous action sprayers where the user is only powering one stroke and air compressed on this stoke is used to power spraying during the other stroke. Some literature and manufacturers do not make this distinction, with the terms "continuous action" and "double action" being interchanged. The double action DRON-WAL sprayers are of the type most notably made by SOLO Sprayers Ltd. These sprayers use a smaller tube moving within a larger tube to give the double action. In effect, the larger tube is the barrel and the inner tube a hollow piston rod.

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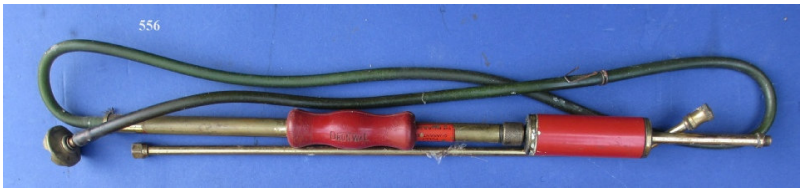
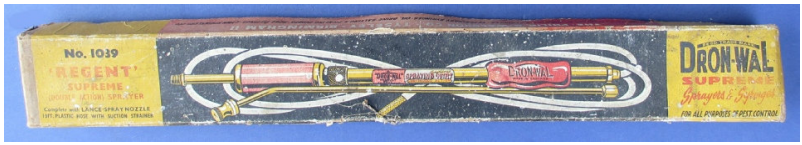
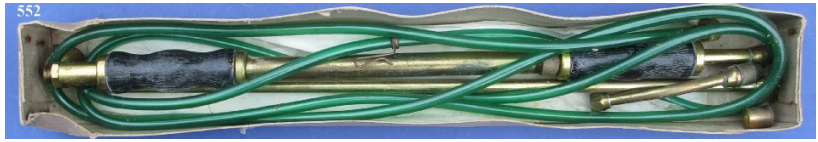




Above :- [556] {3} Model 1039 REGENT SPRAYING OUTFIT. Double action sprayer with air chamber. Red DRON-WAL decal. Barrel length 13 inches and diameter ⅝ inch. Piston rod (inner barrel) diameter ⅜ inch with a 4 inch air chamber. Air chamber is plastic covered and forms the front grip. The rear grip is plastic embossed with DRON-WAL. Piston is leather washer and piston valve controlled by a ball. Lance 20 inches in length with a bend. Diameter of $^{5}/_{16}$ inch. Plastic hose 4ft in length with a strainer which has a valve. Spray nozzle. Input valve where the hose connects to the barrel. Controlled by a ball.



Above :- [556] {3} Model 1041 TRIUMPH SPRAYING OUTFIT. Double action sprayer. "DRON-WAL MADE IN ENGLAND" engraved on barrel. Barrel length 14 inches and diameter ¾ inch. Piston rod (inner barrel) diameter ½ inch. Wooden grips. Piston is two rubber "O" rings. Piston valve controlled by a ball. Lance 20 inches in length. Separate bend 4 inches long. Plastic hose 10ft in length with a strainer which has a valve using a ball. Spray nozzle. Input valve controlled by a ball where the hose connects to the barrel.

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Above :- [315] {3} Model 1041 TRIUMPH SPRAYING OUTFIT. Double action sprayer. Metal plate reading "DRON-WAL SYRINGES AND SPRAYERS BRITISH MADE FULLY GUARANTEED". Barrel length 14 inches and diameter ¾ inch. Piston rod (inner barrel) diameter ½ inch. Wooden grips. Piston is a leather washer. Piston valve controlled by a ball. Lance 24 inches in length. Separate bend 4 inches long and $^{7}/_{16}$ in diameter. Reinforced rubber hose with a strainer which has a ball valve. Spray nozzle. Input valve controlled by a ball where the hose connects to the barrel (see picture below left).

Left :- Model 1040 SUPREME SPRAYING OUTFIT. This had the same sprayer as in the TRIUMPH outfit above but with a large strainer and a limewashing nozzle.

Left :- The special non-clog limewashing nozzle.

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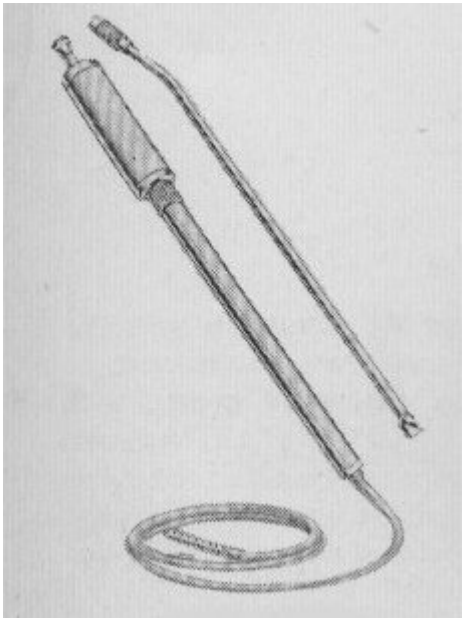

Left :- Model 1038 MAGNA SUPREME. This model appears around 1965. It appears to be a double action sprayer with an air chamber. It was a cheaper sprayer than the other double action sprayers.

Pneumatic Sprayers (Metal)

Left :- Model 2P. Four and six pint versions available in 1969. The 6 pint version was discontinued by 1968.

Hollow handle for use on a pole.

Left :- Model 3P. Working capacity 3½ pints. Lever control action.

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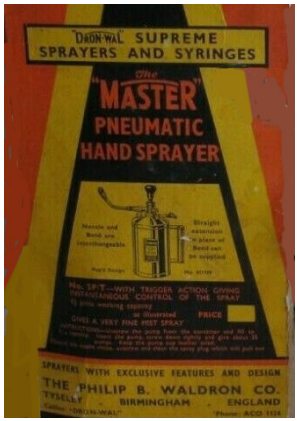

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Above :- [568] {2} Model 5P/T MASTER small pneumatic. Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The valve is of the disc type. Solid steel piston rod ¼ in diameter. Lever controlled spray nozzle. Forward facing leather cup washer piston. The 1977 special jubilee version. is said to be an exact reproduction of the sprayer as in 1952.

Left :- Early version. Model 51 (or 5l) from the 1944 advertisement. The sprayer appears to have been in production from at least 1933. It was numbered as 51 (or 5l) in 1944 and had a different lever mechanism. By 1952 the more familiar version was in production.

Right :- The air pump valve. This consists of a rubber washer held against a spring which is secured with a split pin.

Right :- The complete MASTER decal (unused).

Left :- [837] {2} Version with a wooden pump handle so this would be earlier than both the special jubilee version and also the version with the plastic pump handle.

A version is known with a plate reading "MOORE & COMPANY SHIPS MEDICAL SUPPLIES 27& 29 GREENCHURCH LANE LONDON EC 3". This had an un-cloggable nozzle. Thought to have been used for disinfectant spraying on ships.

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Above :- [955] {2} Model 5P/T MASTER small pneumatic. Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The valve is of the disc type. Solid steel piston rod ¼ in diameter. Lever controlled spray nozzle. Forward facing leather cup washer piston. This version with a different decal. The 1977 special jubilee version. is said to be an exact reproduction of the sprayer as in 1952. .

Left :- The spares kit for the above.

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Above :- [955] {2} Model 5P/T MASTER outside of leaflet.

Left :- [955] {2} From the spares bag. Shows that Dron-Wal was part of P L Willcox Ltd at this time.

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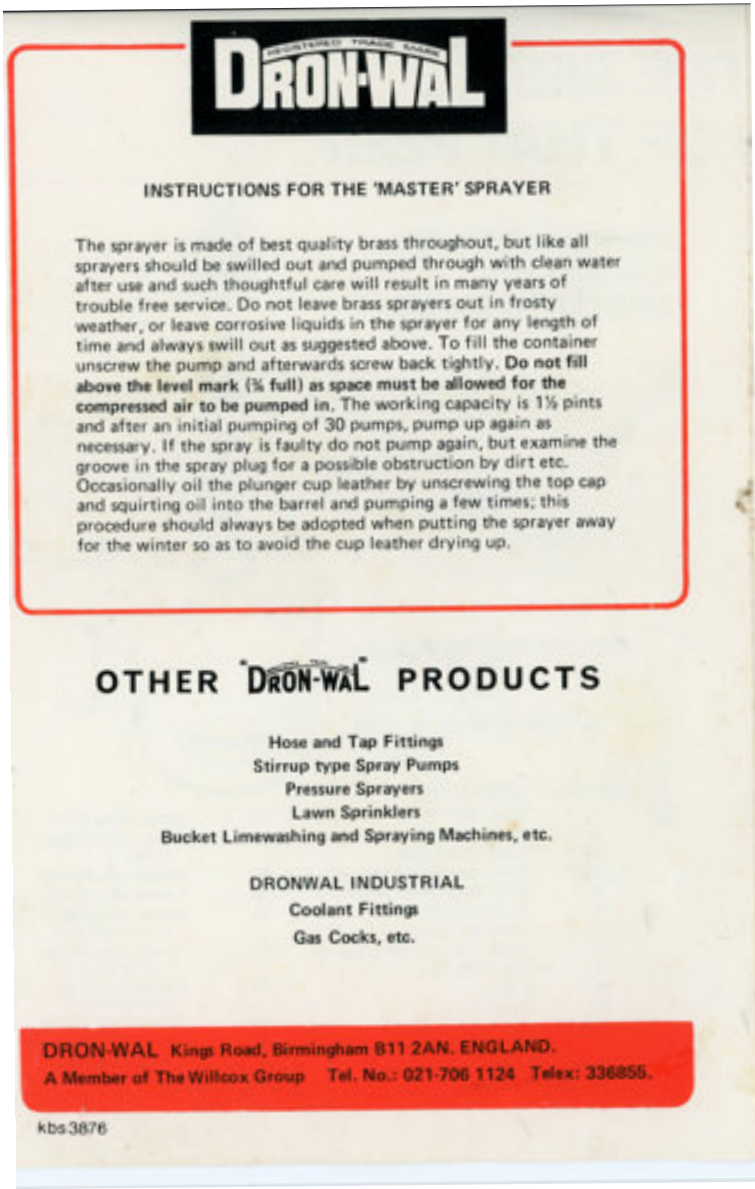
Above :- [955] {2} Model 5P/T MASTER outside of leaflet.



DRON-WAL

INSTRUCTIONS FOR THE 'MASTER' SPRAYER

The sprayer is made of best quality brass throughout, but like all sprayers should be swilled out and pumped through with clean water after use and such thoughtful care will result in many years of trouble free service. Do not leave brass sprayers out in frosty weather, or leave corrosive liquids in the sprayer for any length of time and always swill out as suggested above. To fill the container unscrew the pump and afterwards screw back tightly. **Do not fill above the level mark (¾ full) as space must be allowed for the compressed air to be pumped in.** The working capacity is 1½ pints and after an initial pumping of 30 pumps, pump up again as necessary. If the spray is faulty do not pump again, but examine the groove in the spray plug for a possible obstruction by dirt etc. Occasionally oil the plunger cup leather by unscrewing the top cap and squirting oil into the barrel and pumping a few times; this procedure should always be adopted when putting the sprayer away for the winter so as to avoid the cup leather drying up.

OTHER DRON-WAL PRODUCTS

Hose and Tap Fittings
Stirrup type Spray Pumps
Pressure Sprayers
Lawn Sprinklers
Bucket Limewashing and Spraying Machines, etc.

DRONWAL INDUSTRIAL
Coolant Fittings
Gas Cocks, etc.

DRON-WAL Kings Road, Birmingham B11 2AN. ENGLAND.
A Member of The Willcox Group Tel. No.: 021-706 1124 Telex: 336855.

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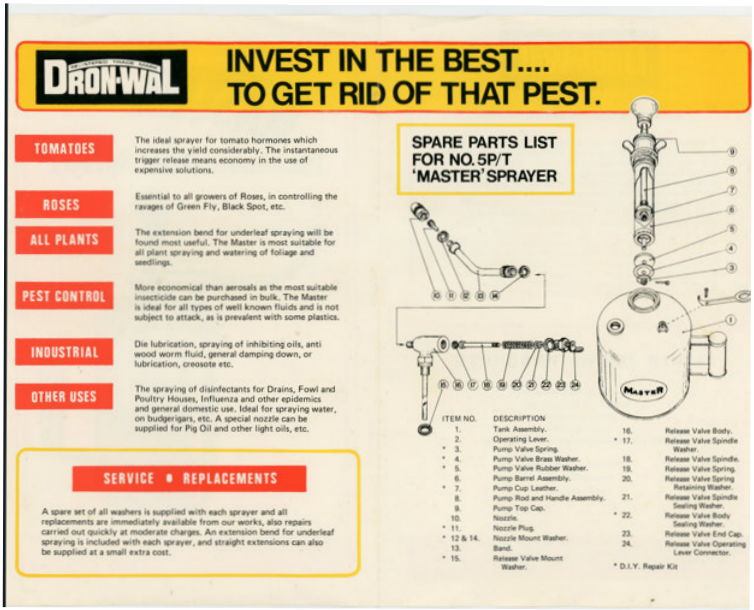
Above :- [955] {2} Model 5P/T MASTER inside of leaflet.



DRON-WAL

INVEST IN THE BEST....
TO GET RID OF THAT PEST.

TOMATOES The ideal sprayer for tomato hormones which increases the yield considerably. The instantaneous trigger release means economy in the use of expensive solutions.

ROSES Essential to all growers of Roses, in controlling the ravages of Green Fly, Black Spot, etc.

ALL PLANTS The extension bend for underleaf spraying will be found most useful. The Master is most suitable for all plant spraying and watering of foliage and seedlings.

PEST CONTROL More economical than aerosals as the most suitable insecticide can be purchased in bulk. The Master is ideal for all types of well known fluids and is not subject to attack, as is prevalent with some plastics.

INDUSTRIAL Die lubrication, spraying of inhibiting oils, anti wood worm fluid, general damping down, or lubrication, creosote etc.

OTHER USES The spraying of disinfectants for Drains, Fowl and Poultry Houses, Influenza and other epidemics and general domestic use. Ideal for spraying water, on budgerigars, etc. A special nozzle can be supplied for Pig Oil and other light oils, etc.

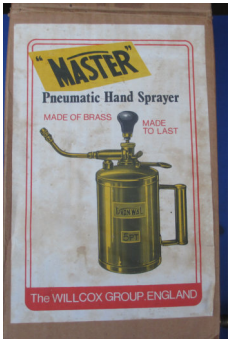
SERVICE • REPLACEMENTS

A spare set of all washers is supplied with each sprayer and all replacements are immediately available from our works, also repairs carried out quickly at moderate charges. An extension bend for underleaf spraying is included with each sprayer, and straight extensions can also be supplied at a small extra cost.

SPARE PARTS LIST FOR NO. 5P/T 'MASTER' SPRAYER

ITEM NO.	DESCRIPTION
1.	Tank Assembly.
2.	Operating Lever.
* 3.	Pump Valve Spring.
* 4.	Pump Valve Brass Washer.
* 5.	Pump Valve Rubber Washer.
6.	Pump Barrel Assembly.
* 7.	Pump Cup Leather.
8.	Pump Rod and Handle Assembly.
9.	Pump Top Cap.
10.	Nozzle.
* 11.	Nozzle Plug.
* 12 & 14.	Nozzle Mount Washer.
13.	Band.
* 15.	Release Valve Mount Washer.
16.	Release Valve Body.
* 17.	Release Valve Spindle Washer.
18.	Release Valve Spindle.
19.	Release Valve Spring.
20.	Release Valve Spring Retaining Washer.
21.	Release Valve Spindle Sealing Washer.
* 22.	Release Valve Body Sealing Washer.
23.	Release Valve End Cap.
24.	Release Valve Operating Lever Connector.

* D.I.Y. Repair Kit



Left :- [955] The outside of the box.

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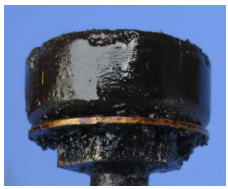
Above :- [902] {4} Red painted version of Model 5P/T MASTER small pneumatic. Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The valve is of the disc type. Solid steel piston rod ¼ in diameter. Lever controlled spray nozzle. Forward facing leather cup washer piston.



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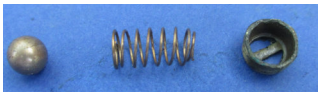
Left :- Model 8. All brass sprayer. Filled by removing the pump barrel.

Available in 2, 3 and 4 gallon sizes. Working capacity ½ gallon less than these. Supplied with 39 inches of high pressure hose. Spraying lance with a lever control.

Atomizers

Above :- [405] {4} Model number unknown, but it is probably an early version of model 1080. An air pump type sprayer with a container which is filled from the top. A tube runs from the nozzle to the bottom of the container. The pump pressurises the container which forces liquid through the tube and nozzle. The air pressurised in the container keeps the liquid flowing on the pull stroke. The sprayer stops immediately if turned upside down as the air escapes. Pump barrel length 8 inches and diameter ⅞ inch. Container height 5 inches and diameter 3 inches. Piston rod is solid brass ¼ inch in diameter. There is a spring on the piston rod. Pump valve is a brass ball with a spring. Capacity about 1 pint. The sprayer could be filled to about ½ capacity.



Right :- The valve as used in the air pump

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Above :- [946] {4} Model 1080. Brass construction. Air pump barrel length 8 inches with a diameter of 1 inch. Container diameter 3 inches and length 5 inches with a capacity of 1 pint. Brass piston rod ¼ inch in diameter. Single forward facing leather cup washer. Internal spring on piston rod and a rubber external buffer. Valve is a spring loaded ¼ inch brass ball. Rubber washers. Spray nozzle. The pump pressurises the container which forces liquid through a tube leading to the nozzle. The tube is arranged so that if the sprayer is turned upside down spraying stops and the compressed air is lost. No air passes directly into the nozzle from the pump.

Left :- [946] The pump valve in situ and the components.

Left :- The nozzle. Showing the nozzle plug which has a single spiral groove.

Left :- The DRON-WAL logo embossed on both ends of the container.

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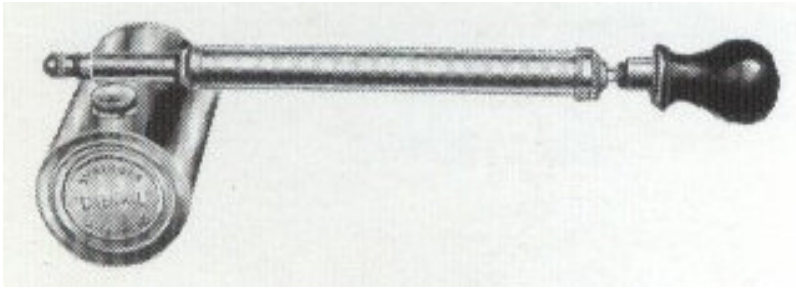
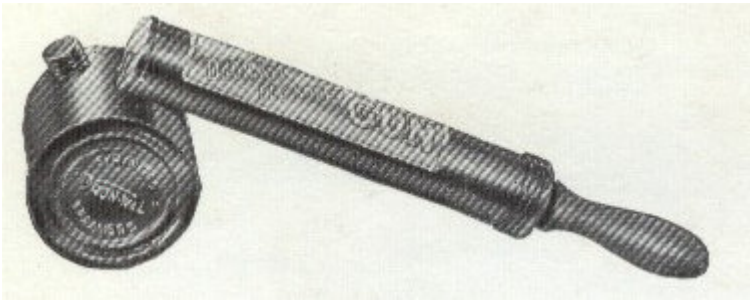
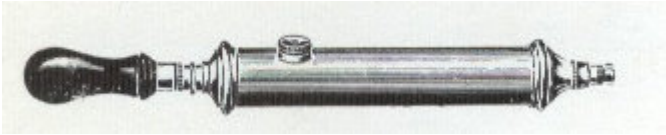


Above :- Model 1080 from 1959 catalogue. Note that filler is on the opposite side to the actual example [946].



Above :- Model 1099 from 1959 catalogue. Described as enamelled. Probably a tin plate sprayer with an air pump. It would work by both pressurising the container and by also passing some air directly to the nozzle. This mixes the liquid and air to form an atomised spray.



Above :- Model 1081 from 1959 catalogue. This appears to be similar to the Cromessol vaporizer.

Bucket Pumps and Mobile Sprayers

In 1959 the DRON-WAL range included a small number of bucket sprayers and one mobile sprayer. The illustrations suggest that the pumps used were based on the common pump with an air chamber. Some had a bulbous air chamber. The larger bucket sprayer and the mobile sprayer had a lever action handle.

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Left :- Model 0. Brass pump in a 4 gallon container. Hose 39 inches long. Lance 15 inches long with a non-clog limewashing nozzle. Also, a jet nozzle. It appears to have a cylindrical pressure chamber as the top of the barrel. Provided with a large sieve.

Left :- Model 2 Brass pump in a 4 gallon non splash container. Hose 39 inches long. Lance 15 inches long with a non-clog limewashing nozzle. Also, a jet nozzle. It appears to have a cylindrical pressure chamber at the top of the barrel. Provided with a strainer in the neck.

Left :- Model 4. Brass pump in a 4 gallon container. Hose 6ft long. Lance 2ft long with a fine spray nozzle and jet nozzle. There is a tap on lance; It appears to have a bulbous air chamber at the top of the barrel.

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Left :- Model 5. Brass pump in a 6 gallon container. Hose 6ft long. Lance 2ft long with a fine spray nozzle and jet nozzle. Tap on lance; It appears to have a bulbous air chamber at the top of the barrel.

Left :- Model 6. Brass pump in a 6 gallon container. Hose would have been 6ft long. Originally it would have had a 2ft long lance. This would have been fitted with a fine spray nozzle and jet nozzle. It appears to have a bulbous air chamber at the top of the barrel. Lever action.

Left :- Model 7. Brass pump in a 6 or 10 gallon container. Hose 10ft long. Lance 2ft long with a limewashing, fine spray and jet nozzles. Tap on lance; It appears to have a bulbous air chamber at the top of the barrel. Lever action. Available with a rubber tyred or iron wheel.

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Stirrup Pumps (Continuous Action Spray Pumps)

Above :- [941] {3} Continuous Action Spray Pump. This is similar to model 1035 as illustrated on the next page. Possibly an updated version of the model. Barrel length 18 inches with a diameter of 1 inch. Hose 36 inches long. Lance fitted with adjustable spray head and a baffle. Air chamber in top of piston rod. Piston is back to back leather cup washers. Piston and foot valves are controlled by ½ inch brass balls. Probably 1960s.

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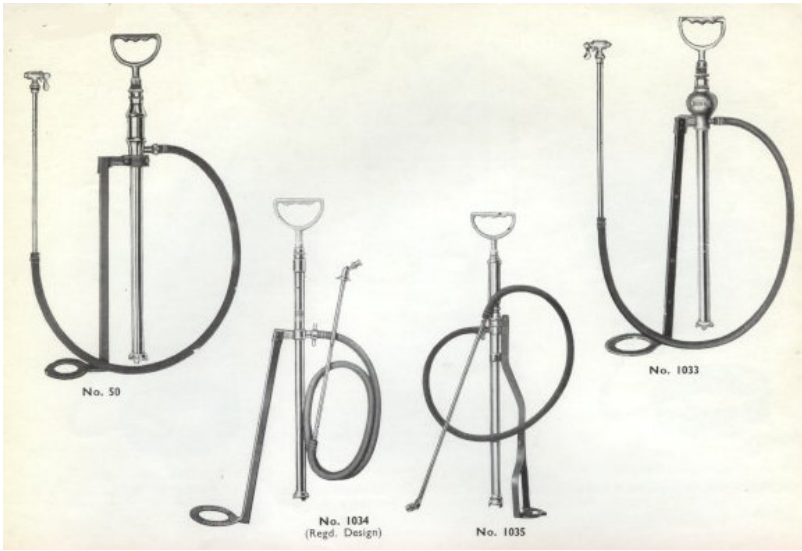

Above :-

Model 50. *Brass pump. 42 inches of hose. Brace lance. Bordeaux or spray nozzle. Air chamber.*
Model 1033*. Brass pump. 42 inches of hose. Brace lance. Bordeaux or spray nozzle. Bulbous air chamber.*
Model 1034*. Brass pump. 39 inches of hose. Brace lance. Limewash nozzle. Air chamber.*
1034A *Brass pump with a barrel of 1 inch diameter and 39 inches of hose and 15 inch brass lance. Air chamber.*
Model 1035 *Brass pump. Air chamber. 39 inches of hose. Brace lance. Fine, coarse and jet spray caps.*

Left :- Model 1037. PREMIER Hand Stirrup Pump. Made to Ministry of Works specification. Barrel is protected with rubber. 20 feet of hose. Quick release strap on hose.

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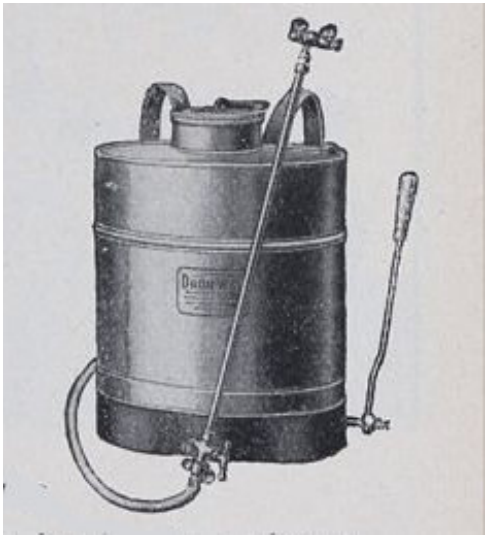
Knapsack Sprayers



Left :- Model 1 KNAPSACK. Implements patent GB626777A applied for 17 April 1947. A similar looking sprayer was advertised in 1944 but this may have had a different pump mechanism. Manufacturers do not usually introduce changes until the patent has been applied for. There was probably a knapsack sprayer in the range from the early days of the company.

There is a further patent GB704475A applied for 24 May 1951 which adds an agitator to the sprayer. I have not seen any advertisements for a knapsack with this feature. A Knapsack sprayer Model 3 is mentioned in the 1972 price list, but I have no illustration or detailed information on this.

CHAMPION Model 1555

Left :- Model 1555 CHAMPION. Advertised as being fitted with double leather cup washers and a stainless steel spring. Working capacity ½ pint. The mechanism is not known. Most of these small sprayers of this type use a small force pump. Available around 1968 but not in the 1972 price list.

Sprayer lookalikes

The DRON-WAL brand includes a number of products which superficially look like sprayers. These include fire pumps, powder blowers, football inflators, calf inflators, brine pumps, salting syringes, grease guns, veterinary syringes and veterinary pumps.

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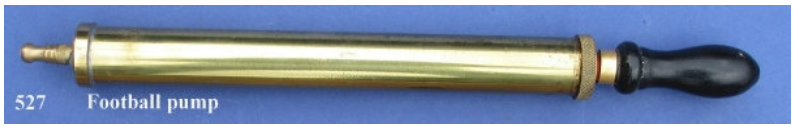
Fire Pump

Left :- Fire Pump Model 1 EMPIRE. This appears to be a single action pump. In these pumps the output is via a hollow piston rod. This fits tightly within the barrel and is fitted with a valve. The hose connects to the end of the barrel where there is an additional valve. The pump gives a powerful but intermittent flow, The pump is connected to a backpack container of about 4 gallons. Barrel length 18 inches with a diameter of $1^{3}/_{32}$ inches.

Powder Blowers

Above :- [325] Model 1053 Powder Blower. Tinplate. Barrel length 9½ inches and diameter 1⅜ inches. Model 1052 was a smaller powder blower and model 1054 a larger one.

Football Inflator



Above :- [527] Engraved on barrel end cap "DRON-WAL MADE IN ENGLAND. Barrel length 9 inches and diameter $1^{1}/_{16}$ inches. The ball valve is in the connector. Piston rod is solid steel ¼ inch in diameter. Piston is a forward facing leather cup washer. Spring on piston rod and red buffer washer. The football inflator was also available in 7 and 8 inch length.

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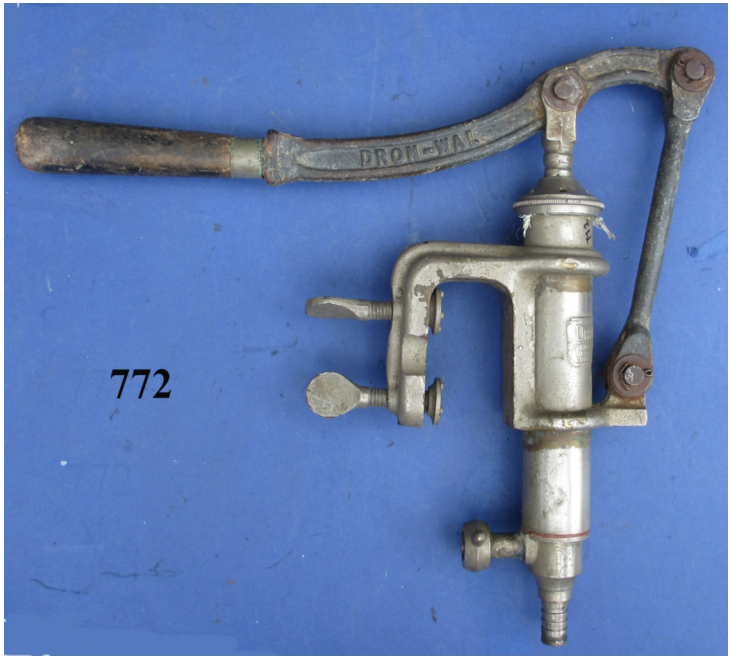
Meat Preparation



Above :- [772] Brine pump model 1045. Barrel length 7 inches and diameter 1½ inches. Nickel-plated throughout. Plate reads "DRON-WAL SYRINGES AND SPRAYERS FULLY GUARANTEED". The pump would have originally come with an input hose with a strainer and an output hose with a hollow needle like end. Used for forcing brine and other salts into meat. This version is an implementation of a force pump.. There was another model 1044 based on a common pump which was advertised as double action.

Above :- (294) CALF INFLATOR. Not marked but believed to be model 1146. Barrel length 18 inches and diameter 2 inches. A larger version model 1147 looking similar to a tyre pump model was also available. Used to pump air into animal carcases for the purpose of separating the meat from the bone making butchery easier. The needle was inserted into the animal and air pumped in until the carcass was blown out. The pump could then be unscrewed leaving the needle in the animal until the flesh was firmly set. Each nIckel-plated needle had a ball valve. (see below). The air pump piston uses a single forward facing cup washer. Salting syringes also use a needle like nozzle with holes along their length which may vary in size and number. They are used as syringes and do not have a valve. For food hygiene reasons they are nickel-plated and have metal handles.

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Above :- The valve and the needle from the Calf Inflator.

Above :- (918) Poultry Singer. Used to singe poultry, to remove feather residue from plucked birds. Connected to a gas supply.

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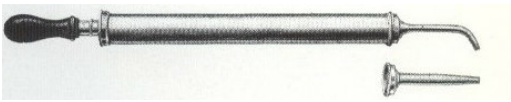
Grease Guns and Oil Syringes

These are identifiable by the nozzle. Grease guns are filled by removing the nozzle. They usually only have a forward facing cup washer. Oil syringes have long nozzles which may taper towards the end but are open tubes. Sometimes they have bends. They are used as syringes by sucking in the oil through the nozzle. They will normally have a back-to-back cup washer piston. If the nozzle is missing, then the remains of the contents may give an indication of use.

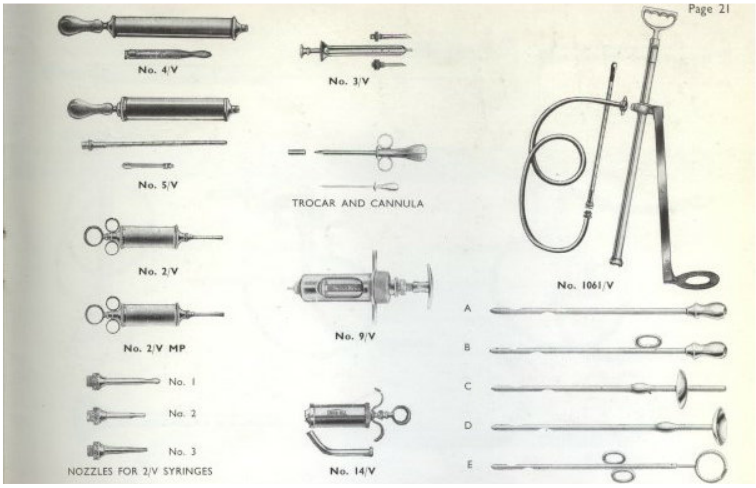
Left :- Grease gun. Model 1059



Left :- Oil syringe. Model 1058.

Medical Syringes and Pumps

Medical syringes are generally smaller than horticultural syringes. The handle and/or nozzle will generally be different. They may be tinned inside. The veterinary pump model 1061 is nickel-plated and the lance does not have a nozzle. Otherwise, it could be mistaken for a sprayer.



Above :- DRON-WAL medical syringes and pump.

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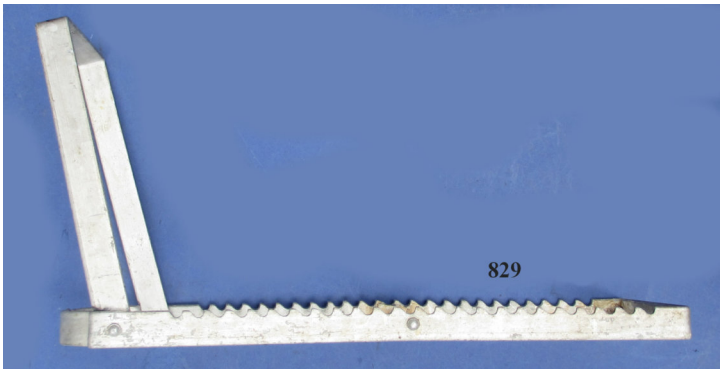
OTHER PRODUCTS

Other products known include bilge pumps, caravan pumps, oil and barrel pumps, sprinklers, hoses, hose connections, hose nozzles, hose reels, weed eradicators, poultry singer (No. 1051), and a plate rack. The plate rack shown below was the subject patent number GB217399A applied for 6 February 1924 and granted 19 June 1924. It is about 12 inches long.



PROMOTIONAL ITEM

Left :- Promotional tankard. 8 inches high and 5 inches in diameter.

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Above :- DRONWAL Sprinkler.

Above :- DRONWAL watering head.

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Advertisement 1944

Philip B Waldron & Co Ltd

1945 - Copyright Grace's Guide to British Industrial History. The numbers shown for the syringe sprayers have been transposed.

Philip B Waldron & Co Ltd

Advertisement 1947

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Advertisement 1950 - Copyright Grace's Guide to British Industrial History

REG? TRADE MARK

DRON-WAL *Supreme and* **SPRAYERS AND SYRINGES** FOR ALL PURPOSES of PEST CONTROL, TREES, GROUND CROPS, CATTLE, MALARIA, ETC. ETC.

Specialities : **Powder Blowers, Limewashers, Veterinary and Dosing Syringes, Butchers' Brine Syringes and Pumps, etc., etc.**

No. 1

KNAPSACK SPRAYER

PAT. No. 626777/49

Patent Diaphragm action. Has the least number of working parts, less spares to carry, and is the easiest to operate.

No. 8

"EASI-FILL"

COMPRESSED AIR SPRAYER

2, 3 & 4 GALLON SIZES

Built of very heavy gauge brass for strength and to resist corrosion

SEE OUR STAND No. A611

THE PHILIP B. WALDRON CO.
TYSELEY, BIRMINGHAM, ENGLAND.

Cables : DRON-WAL, BIRMINGHAM

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Advertisement 1951 - Copyright Grace's Guide to British Industrial History

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Advertisement 1957 - Copyright Grace's Guide to British Industrial History

REG^d TRADE MARK

DRON-WAL *Supreme and* **SPRAYERS AND SYRINGES** FOR ALL PURPOSES of PEST CONTROL, TREES, GROUND CROPS, CATTLE, MALARIA, ETC. ETC.

MANUFACTURERS OF ALL TYPES OF HAND AND PNEUMATIC SPRAYERS, POWDER BLOWERS, HOSE FITTINGS, VETERINARY SYRINGES, STIRRUP TYPE PUMPS, BRINE PUMPS AND SYRINGES. KNAPSACK TYPE FIRE PUMPS

No. 5/P.T.
PNEUMATIC
HAND SPRAYER

No. 8
COMPRESSED
AIR SPRAYER

Patent No. 626777/49
KNAPSACK SPRAYER

No. 1033
SPRAY PUMP

VISIT OUR STAND

No. A525

AT

BIRMINGHAM

SEND FOR FULLY ILLUSTRATED CATALOGUE

THE PHILIP B. WALDRON CO.
TYSELEY, BIRMINGHAM, ENGLAND.

Cables :
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BIRMINGHAM

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Advertisement 1960

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Advertisement 1961 - Copyright Grace's Guide to British Industrial History

Philip B Waldron & Co Ltd

Advertisement CHAMPION SPRAYER circa 1968

Philip B Waldron & Co Ltd

Advertisement CHAMPION SPRAYER circa 1968

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Advertisement MASTER - Side 1 - Circa 1972

Philip B Waldron & Co Ltd

Advertisement MASTER - Side 1 - Circa 1972

"REGISTERED TRADE MARK"

DRON-WAL

INSTRUCTIONS

The sprayer is made of best quality brass throughout, but like all sprayers should be swilled out and pumped through with clean water after use and such thoughtful care will result in many years of trouble free service. Do not leave brass sprayers out in frosty weather, or leave corrosive liquids in the sprayer for any length of time and always swill out as suggested above. To fill the container unscrew the pump and afterwards screw back tightly. **Do not fill above the level mark (¾ full) as space must be allowed for the compressed air to be pumped in.** The working capacity is 1½ pints and after an initial pumping of 30 pumps, pump up again as necessary. If the spray is faulty do not pump again, but examine the groove in the spray plug for a possible obstruction by dirt etc. Occasionally oil the plunger cup leather by unscrewing the top cap and squirting oil into the barrel and pumping a few times; this procedure should always be adopted when putting the sprayer away for the winter so as to avoid the cup leather drying up.

OTHER "DRON-WAL" PRODUCTS

Syringes and Sprayers of all types
Powder Blowers
Hose and Tap Fittings
Stirrup type Spray Pumps
Pressure Sprayers
Knapsack Sprayers
Weed Eradicators
Lawn Sprinklers
Spray Nozzles
Bucket Limewashing and Spraying Machines, etc.

Obtainable from all Ironmongers, Seedsmen, Agricultural Implement Dealers and Stores.

The PHILIP B. WALDRON CO., Kings Road, Tyseley.
BIRMINGHAM 11
ENGLAND

Philip B Waldron & Co Ltd

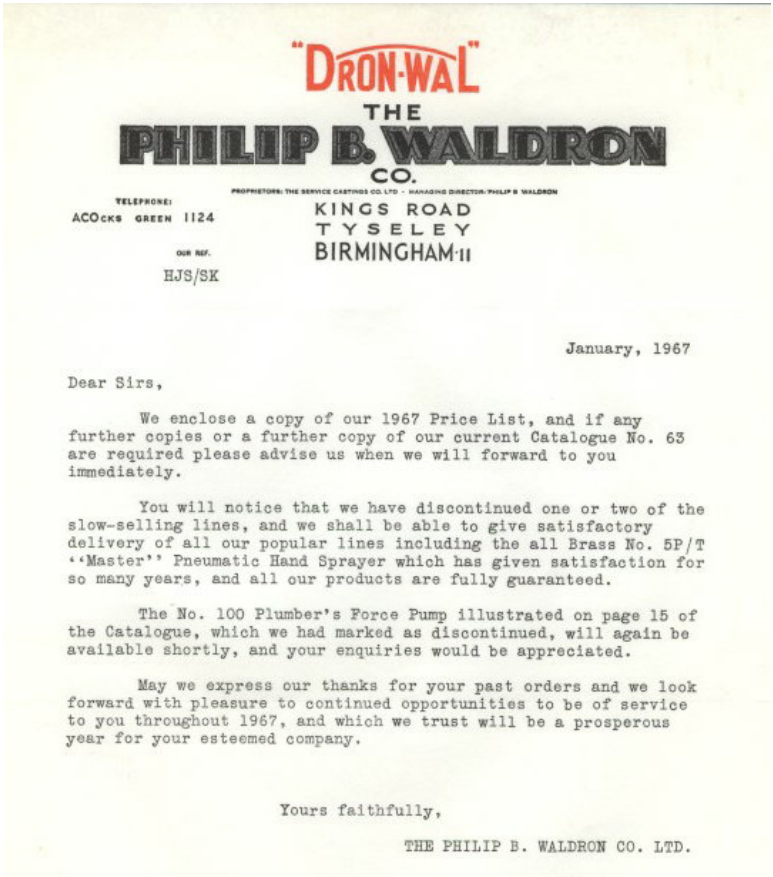
Advertisement MASTER - Side 2 - Circa 1972

Philip B Waldron & Co Ltd

.Decals

Philip B Waldron & Co Ltd

Letter 1967



"DRON-WAL"

THE PHILIP B. WALDRON CO.

PROPRIETORS: THE SERVICE CASTINGS CO. LTD. - MANAGING DIRECTOR: PHILIP B. WALDRON

TELEPHONE: ACOCKS GREEN 1124

KINGS ROAD
TYSELEY
BIRMINGHAM·11

OUR REF. HJS/SK

January, 1967

Dear Sirs,

We enclose a copy of our 1967 Price List, and if any further copies or a further copy of our current Catalogue No. 63 are required please advise us when we will forward to you immediately.

You will notice that we have discontinued one or two of the slow-selling lines, and we shall be able to give satisfactory delivery of all our popular lines including the all Brass No. 5P/T ''Master'' Pneumatic Hand Sprayer which has given satisfaction for so many years, and all our products are fully guaranteed.

The No. 100 Plumber's Force Pump illustrated on page 15 of the Catalogue, which we had marked as discontinued, will again be available shortly, and your enquiries would be appreciated.

May we express our thanks for your past orders and we look forward with pleasure to continued opportunities to be of service to you throughout 1967, and which we trust will be a prosperous year for your esteemed company.

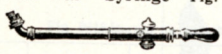
Yours faithfully,

THE PHILIP B. WALDRON CO. LTD.

Philip B Waldron & Co Ltd

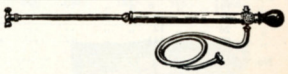
Buck & Hickman Catalogue (1954)

The "Dron-Wal" Syringe Fig. 10334 D



Size,	14×1 in.	PRICE 36/- each
,,	20×1 ,,	,, 38/6 ,,
,,	20×1¼ ,,	,, 45/- ,,

The "Dron-Wal" Handy Spraying Outfit Fig. 10163 D



All Sprayers, Syringes, etc., bearing the well-known Trade Mark of "Dron-Wal" are Fully Guaranteed and represent the very highest standard of Quality and the Best Value for Money. British Made.

Will Spray all Insecticides without detriment to the Sprayer.

PRICE, Complete with Swivel Fine Spray Nozzle, Rose, Straight Jet, Extension Lance, 6 ft. Suction Hose with Strainer at bottom. Singly boxed .. .. 35/- each

Buck & Hickman Catalogue (1964)

"Dron-Wal" Handy Spraying Outfit Fig. 10163 D

All Sprayers, Syringes, etc., bearing the well-known Trade Mark of "Dron-Wal" are Fully Guaranteed and represent the very highest standard of Quality and the Best Value for Money. British Made. Will Spray all Insecticides without detriment to the Sprayer.

PRICE, Complete with Swivel Fine Spray Nozzle, Rose, Straight Jet, Extension Lance, 6 ft. Suction Hose with Strainer at bottom. Singly boxed. No. 1042 .. .. 42/6 each

,, Continuous Action Spraying Outfit. No. 1043 .. .. 69/6 ,,

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Chapter 45

T N Waldron Ltd

T N Waldron Ltd

T N Waldron Ltd

Avon Works, Great William Street, Stratford on Avon.

1910 to 1960. Mr Thomas N Waldron was mayor of Stratford from1936 to 1939 and continued during the war years It is believed that he was born in 1894 in Yorkshire and died in 1961. It is probable that the firm ceased trading on his death. They made handheld liquid sprayers and powder blowers. Also tying rings, sock dryers, cloches and the WASH-MADE a folding laundry airer and cart (*Tewkesbury Register - Friday 01 April 1960).*

Models - WALDREX AND WALDUST

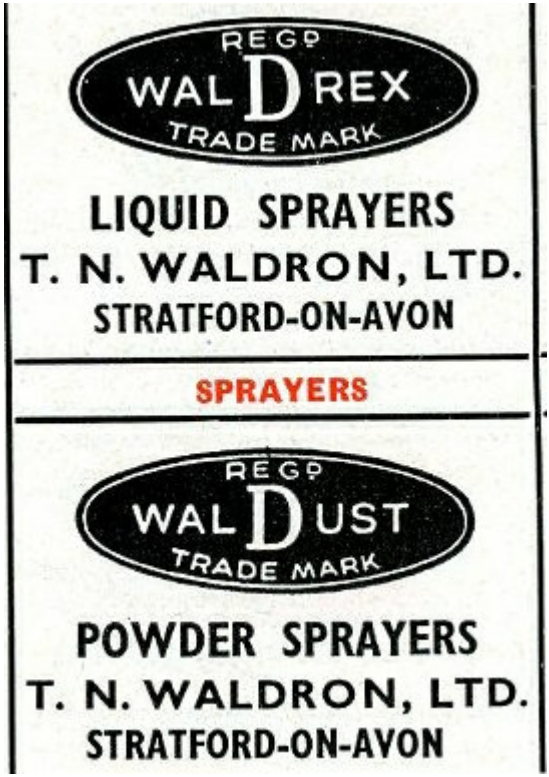
Above :- [596] {1} The WALDREX sprayer. Barrel length 7½ inches and diameter $1^{5}/_{16}$ inches. Painted tinplate. Glass container 3 inches high and 2 inches in diameter. Capacity about $^{1}/_{3}$ pint. Steel piston rod $^{7}/_{32}$ inch in diameter. Handle is formed by a loop at the end of the steel piston rod. The air pump has a piston with a single forward facing cup washer. The sprayer works using the venturi effect. There is no air going directly from the pump into the container. The air passing over the end of the tube creates a vacuum in the tube (left). This sucks the liquid into the stream of air atomizing it. Air is allowed into the container where the tube passes through the lid. The barrel end cap is made of wood held in place with two round headed brass screws.

T N Waldron Ltd

Above :- [377] {1} The WALDUST. Barrel length 7½ inches and diameter $1^{5}/_{16}$ inches. Painted tinplate. Tinplate container. Steel piston rod $^{7}/_{32}$ inch in diameter. Handle is formed by a loop at the end of the steel piston rod. Piston is a single forward facing cup washer. The air pump passes air into the container and through the nozzle. The air disturbs the powder which is picked up in the air stream and distributed. The barrel end cap is wood held in place with two round headed brass screws.

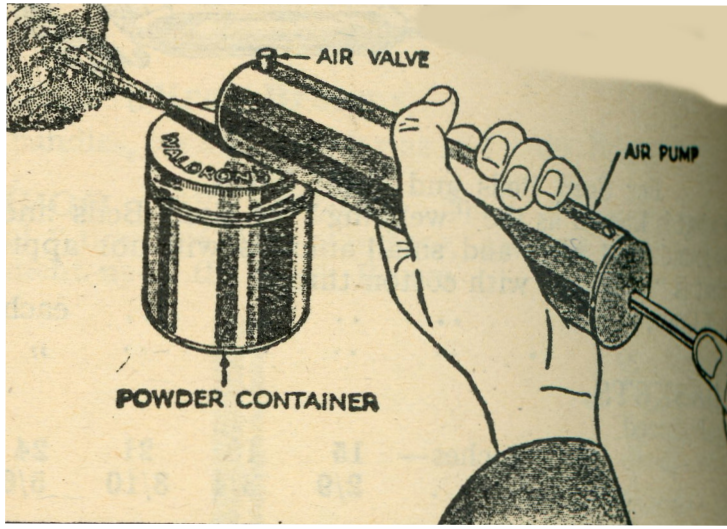
T N Waldron Ltd

Advertisements circa 1959



T N Waldron Ltd

Army & Navy Stores Ltd - Catalogue 1937/8



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Chapter 46

Joseph Walker (Birmingham) Ltd

Joseph Walker (Birmingham) Ltd

Joseph Walker (Birmingham) Ltd

Regent Parade, Birmingham and by 1923 at Augusta Works, Warstone Lane, Birmingham.

Established 1870 and operating to at least 1933.

In 1914 they were cabinet builders and furnishing brassfounders; manufacturers of garden syringes; fancy metal goods in silver, electro plate, nickel plate, copper, brass and aluminium; novelties and patented articles. The 1925 catalogue has 377 pages with well over 1000 lines of brass and other metal items. Syringes are known to have featured from at least 1913 to 1930.

The 1925 catalogue states that all the goods are labelled with a BLUE label bearing their registered trademark. Known syringes have JWB in a shield shape on a metal plate. Some other items (eg. brass trivet) have the trademark embossed into the metal.

The 1925 catalogue lists 19 syringes. The pages for these are reproduced at the end of this chapter. Some idea of how the syringes were constructed can be deduced from the syringes covered in detail below.

Above :- [400] {4} The 1913 Spraying Syringe. JWB shield. Barrel length 16 inches and diameter 1 inch. Spray nozzle with an integrated fast-fill valve. Holder on barrel for a second nozzle. In the 1925 catalogue it is advertised as having a medium rose. It has a hollow brass piston rod $^{5}/_{16}$ inch in diameter. Piston is a cotton reel ½ inch in length. The 1925 catalogue has this syringe with a packed piston (cotton reel) supplemented by a cup washer. There are collars on both ends of the barrel.

Left :- [400] The nozzle components. The centre component acts as both a valve and also as a spray plug. It is held loosely in place by the cap (right) and moves backwards when filling and forward during spraying.

Left :- [400] The valve/spray plug.

Joseph Walker (Birmingham) Ltd

Above :- [480] {4} JWB Shield on barrel. This configuration does not appear in the 1925 catalogue, Barrel length 18 inches with a diameter of 1½ inches. Rose nozzle with a central fast-fill valve controlled by a cone shaped component. Jet nozzle with a side fast-fill valve also controlled by a cone shaped component. Collar at both end of barrel. It has a hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel piston ½ inch in length supplemented by a forward facing leather cup washer.

Above :- [152] {3} JWB Shield on barrel. This configuration appears to be similar to No. 2339 in the 1925 catalogue, Barrel length 18 inches with a diameter of 1¾ inches. Two rose nozzles with central fast-fill valve controlled by a cone shaped component. Jet nozzle with a side fast-fill valve also controlled by a cone shaped component. Collar at both ends of barrel. Short tube on air vent. It has a hollow brass piston rod ½ inch in diameter. Cotton reel piston ½ inch in length. The piston head has an unusual configuration and may have had a cup washer.

Above :- [310] {3} No plate or identification but many of the features are those found on Joseph Walker syringes. Barrel length 18 inches with a diameter of 1½ inches. Two rose nozzles with central fast-fill valve controlled by a ball shaped component. Jet nozzle with a side fast-fill valve also controlled by a ball. Collar at both ends of barrel. Short tube on air vent. It has a hollow brass piston rod ½ inch in diameter. Cotton reel piston ½ inch in length with a forward facing cup washer. Apart from the ball rather than cone shaped valve all features are identical with [152] above.

Joseph Walker (Birmingham) Ltd

1925 Catalogue - The drawings show the syringes truncated.

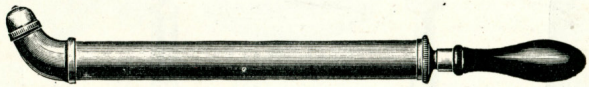
BRASS SPRAYING SYRINGES.

Quick Filling.

FOR THE GREENHOUSE OR GARDEN.

Best Wood Handles. Strong Piston Rods. Polished and Well Lacquered. Boxed Singly.

The "SPRAYETTE" SPRAYING SYRINGE.

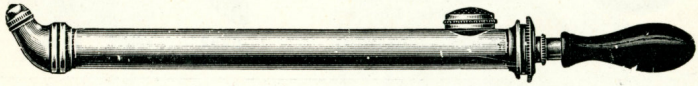


Gives a **spray** like **steam. Invaluable** for **delicate plants.** While it can be used for general purposes, it is an **ideal syringe** for the **Greenhouse** and **Window Garden,** particularly where space is limited.

STRONG, WELL FINISHED AND SERVICEABLE.

3670 Polished Brass, with Bend ... ... $\frac{7}{8} \times 12''$ **5/9** each.

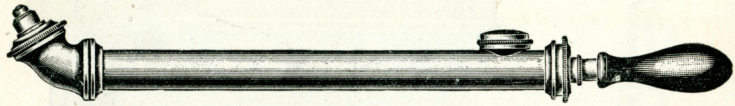
The "1913" SPRAYING SYRINGE.



This Syringe is fitted with a **very fine mist-like spraying nozzle,** combined with a **quick-filling valve.** By the adoption of a simple form of attaching the spraying nozzle, we have been enabled to put this upon the market at a low price, consistent with a reliable and serviceable article.

3665 **Best quality,** Polished, complete with **Spraying** Nozzle, one Medium Rose, combined Packed and Leather Cup Plunger ... ... } $1 \times 18''$ **10/6** each.

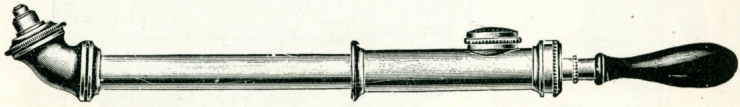
The "J.W.B." SPRAYING SYRINGE.



This Syringe is a **strong, serviceable article,** and, being at a price well within the reach of numerous amateur and professional gardeners, should command a ready sale. It is fitted with a **very fine mist-like spraying nozzle,** combined with a **quick-filling valve** and **detachable bend.**

3660 **Best quality,** Polished, with Stuffing Box, and complete with Spraying Nozzle, Detachable Bend, one Medium Rose, combined Packed and Leather Cup Plunger ... ... } $1 \times 20''$ **13/-** each.

The "AUGUSTA" SPRAYING SYRINGE.



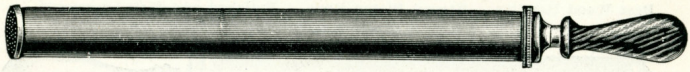
This Syringe is fitted with same Sprayer as No. **3660** above, with **"Drip Preventer"** in addition.

3656 **Best quality,** Polished, with Stuffing Box, and complete with Spraying Nozzle, Detachable Bend, one Medium Rose, combined Packed and Leather Cup Plunger ... ... } $1 \times 20''$ **14/6** each.
$1\frac{1}{4} \times 18''$ **19/-** ,,

Joseph Walker (Birmingham) Ltd

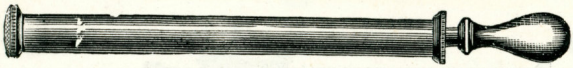
1925 Catalogue

BRONZED ZINC SYRINGE.



6890 With Brass Rose and Brass Cased Piston Rod ... ... 18×1½″ 21/- per doz.

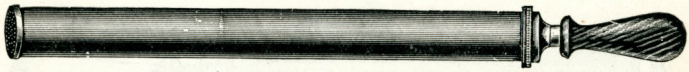
BRASS FLORAL OR BLIGHT SYRINGE.



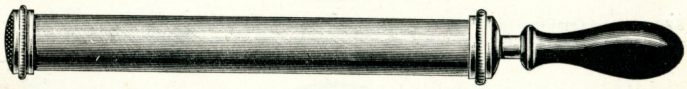
		⅝×8″	¾×9″	1×12″	
6838	Cast Rose, to unscrew, Lacquered	28/-	32/6	44/6	per doz.

BRASS GARDEN SYRINGES.

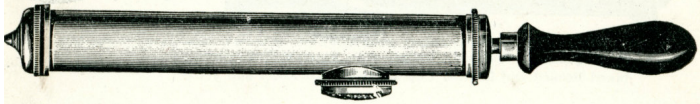
Best Wood Handles. Strong Piston Rods. Well Lacquered.



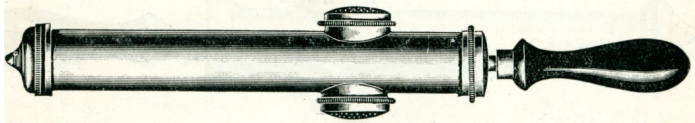
		1¼×16″	1½×18″	
2526	Fixed Rose, Polished	4/9	6/-	each.



		1¼×16″	1½×18″	
6839	Rose only, Cast, to unscrew, Polished	6/3	7/3	each.



3664	With Rose and Jet, Polished	1½×18″	6/9 each.
2524	Polished, Cased Brass Piston Rod, Rose and Jet, combined Packed and Leather Cup Plunger	1¼×16″	6/6 ,,
		1½×18″	7/6 ,,



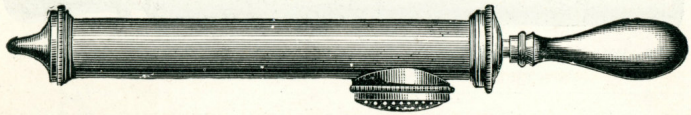
3663	Polished, with Two Roses (one fine and one coarse) and Jet, Cased Brass Piston Rod, combined Packed and Leather Cup Plunger	1¼×16″	7/3 each.
		1½×18″	8/3 ,,

Joseph Walker (Birmingham) Ltd

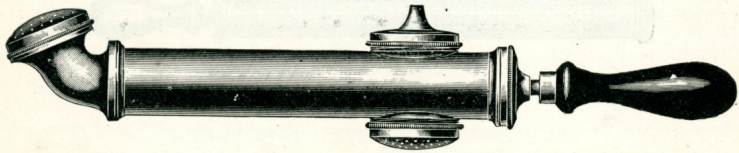
1925 Catalogue

BRASS GARDEN SYRINGES.

Best Wood Handles. Strong Piston Rods. Polished and Well Lacquered.

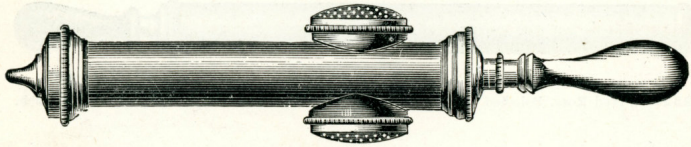


6841 With one Cast Rose and Jet, Polished, combined Packed and Leather Cup Plunger ... ... — 1¼×16″ **7/3** each. 1½×18″ **8/9** ,,

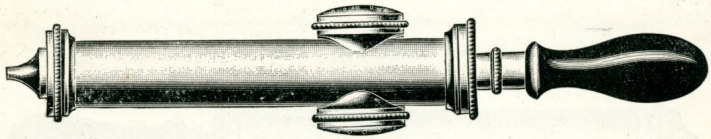


6842 Polished, with Two Cast Roses and Jet, combined Packed and Leather Cup Plunger ... ... — 1¼×16″ **8/3** each. 1½×18″ **9/9** ,,

Prices do not include Bends (see page 365).

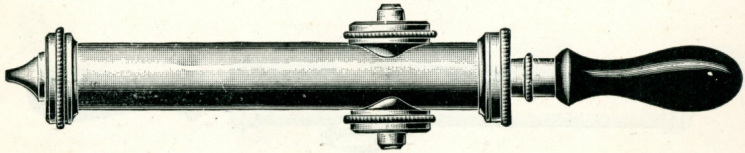


6844 Good Quality, Polished, Strong, with Stuffing Box, Two Cast Roses and Jet, combined Packed and Leather Cup Plunger — 1¼×16″ **9/6** each. 1½×18″ **11/6** ,,



2522 **Best Quality,** Polished, Strong, with Stuffing Box, combined Packed and Leather Cup Plunger, Two Roses and Jet — 1½×18″ **14/-** each.

QUICK FILLING.



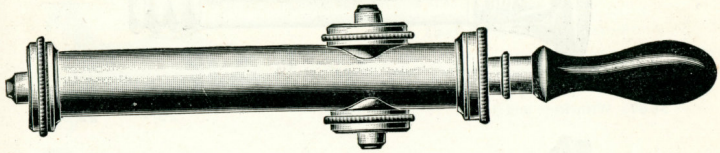
3616 **Best Quality,** Polished, Strong, with Stuffing Box, combined Packed and Leather Cup Plunger, Two Roses, with **Quick-filling Valves** and Jet ... ... — 1½×18″ **15/6** each.

Joseph Walker (Birmingham) Ltd

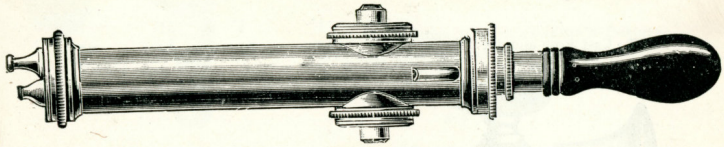
1925 Catalogue

BRASS GARDEN SYRINGES.

Best Wood Handles. Strong Piston Rods. Polished and Well Lacquered. Boxed Singly.

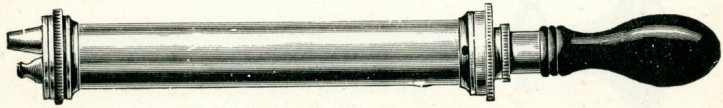


2341 **Best Heavy Quality and Finish,** Polished, with Two Roses and Jet, fitted with **Quick-filling Centre Valves,** combined Packed and Leather Cup Plunger ... ... — $1\frac{1}{2} \times 18''$ **18/6** each. — $1\frac{3}{4} \times 20''$ **25/-** ,,



2339 **Extra Heavy Quality, Best Finish,** Polished, Two Roses with **Quick-filling Centre Valves** and Jet with Independent Valve, combined Packed and Leather Cup Plunger ... — $1\frac{1}{2} \times 18''$ **25/-** each. — $1\frac{3}{4} \times 20''$ **34/-** ,,

WINDOW OR CARRIAGE WASHER.



2338 **Extra Strong,** Polished, specially suitable for Window Washing, etc., with Jet only, **Independent Quick-filling Valve,** Self-oiling Packed and Leather Cup Plunger ... — $1\frac{1}{2} \times 18''$ **17/6** each.

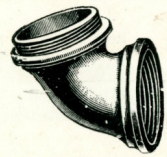
BRASS SYRINGE BENDS.

For attaching to the ends of Syringes, for Spraying Under Leaves, etc.

3654

1″ ... ... **2/8** each.
$1\frac{1}{4}''$ ... ... **3/6** ,,
$1\frac{1}{2}''$ ... ... **4/6** ,,

Fits Syringes Nos. **2522**, **3616** and **2341** shown on pages 364 and 365, and Spraying Syringes on page 362.



3673

$1\frac{1}{4}''$ ... ... **2/9** each.
$1\frac{1}{2}''$ ... ... **3/3** ,,

Fits Syringes Nos. **6841**, **6842** and **6844**, shown on page 364.

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Chapter 47

William Weeks & Son Ltd

William Weeks & Son Ltd

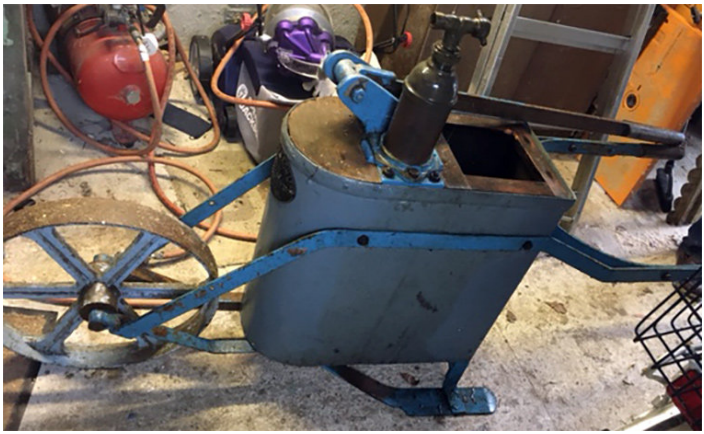
William Weeks & Son Ltd

Perseverance Works, Maidstone, Kent.

William Weeks and Son (also known as W. Weeks & Son Ltd) of Perseverance Iron works in Maidstone, Kent England. The company was founded prior to 1872 then incorporated 1892 to 1971. They are probably best known for orchard sprayers and trailers in recent times but they made machinery for the hop industry in the late 19th and early 20th century. The majority of their machines were powered and outside the scope of this publication.

Above :- [520] {4} Container depth 19 inches, width 10 inches and length 21 inches. Working capacity 12 gallons. The pump mechanism is missing but it would have been a force pump. The air chamber is 20 inches in height. It has an agitator. The narrow width suggests it as designed for working between rows. Pneumatic wheel with rubber tyre 14 inches in diameter.

William Weeks & Son Ltd



Above :- Picture copyright Grace's Guide to British Industrial History. Fruit sprayer. Similar in construction to [520] above, but with an iron wheel. It also looks like it has a more powerful pump with dual hose output.

ALPHA - Pneumatic

In 1920s they were selling a small handheld pneumatic called the ALPHA. This did not have its own pump but was pressurised using a bicycle pump. The name ALPHA was in use by Blake Brothers Ltd and I suspect the ALPHA sold by Weeks was made by them.

RUCKSACK Sprayer

They area known to have sold a Rucksack sprayer with an external pump.

Below :- 1909 Advert

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Chapter 48

John Wright & Co

John Wright & Co

John Wright & Co

30 Broad Street, Islington, Birmingham.

John Wright & Co were major suppliers of sprayers around 1870. It seems likely that syringes with the Wright & Cos manufacturer's plate were made by them. By 1880 they seem to have been concentrating on gas appliances and there are no sprayer advertisements by then. However, some sprayers may still have been in production.

Above :- [622] {3} Plate on Barrel for WRIGHT & Co. Attributed to John Wright & Co. Barrel length 16 inches and diameter 1⅜ inches. Rose and jet nozzles with missing holder for another nozzle. Hollow brass piston ½ inch in diameter. Cotton reel type piston ½ inch in length. Collar at both ends of barrel.

Above :- [330] {4} Attributed to John Wright & Co based on the similarity with the HYDRONETTE in the advertisement. Barrel length 18 inches and diameter 1½ inches. Jet nozzle with missing holder for another nozzle. Hollow brass piston rod ¾ inch in diameter with a ball valve. There is an input valve where the hose connects to the barrel. This is controlled by a ball. Cotton reel type piston ¾ inch in length. Input would be from a hose attached to the barrel (left hand end in picture) and output through the nozzle (right) which is at the end of the hollow piston rod. The barrel would be held with one hand and the wooden grip used to move the piston back and forth. On the pull stroke the barrel is filled and on the push stroke the liquid passes through the piston valve and out through the hollow piston rod.

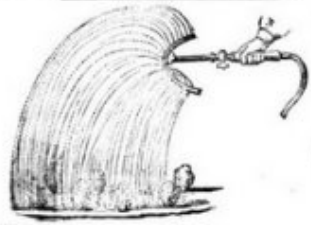
John Wright & Co

Advertisement 1876

JOHN WRIGHT & CO.,

30, BROAD STREET, ISLINGTON, BIRMINGHAM.

IMPROVED GARDEN PUMP.
Price 30s. each.



WRIGHT'S
PATENT LEAMINGTON SHOWER.
Waters 6 feet at a time most effectually.
½ in.—Price, with 1 24-in. straight and 1 14-in. circular head, 16s.
With 1 circular head only, 10s. 6d.
¼ in.—Price, with 1 18-in. straight and 1 12-in. circular head, 12s.
With 1 circular head only, 7s. 6d.

BRASS
SPRING SPREADER.
No. 15.
½ in., 1s. 6d.; ¾ in., 1s. 9d.; 1 in., 2s. 6d.

WRIGHT'S IMPROVED HYDRONETTE.
No. 1, 12s. 6d.; No. 2, 15s.; No. 3, 20s.
No. 4, 30s.; No. 5, 50s. each.

Is extremely light and portable, weighing only 3 lbs. 1 oz., and throws a perfectly continuous stream of water a distance of 35 feet.

(Suction Pipe leading to Pail or Cistern.)

Very little labour is required to work it, and it does not at all wet the dress of the person using it, thereby being better adapted for ladies use than any other Engine yet introduced.

THE CHELTENHAM GARDEN ENGINE (PAGE'S PATENT), price 21s.

No. 2—BRASS UNION BRANCH.
½ in. × 11 in., 3s. 9d.; ¾ in. × 16 in., 6s.; 1 in. × 16 in., 6s.; 1¼ in. × 16 in., 9s.

No. 1—BRASS SINGLE BRANCH.
½ in., 3s. 3d.; ¾ in., 3s. 3d.; 1 in., 4s. 9d.

No. 16.

BRASS
UNION JOINT.
½ in., 1s.; ¾ in., 1s. 3d.
1 in., 1s. 6d.; 1¼ in., 2s. 6d.

WRIGHT'S
IMPROVED SHOWER WATERING-POT.

Waters most gently and effectually 3 or 4 feet at a time.
Price—Japanned Green, with Polished Brass Spreader,
6 quart, 9s.; 8 quart, 10s. 6d.; 12 quart, 12s.

IMPROVED GARDEN SYRINGES.

No. 11—1 in. × 12 in., with Rose and Jet, 4s. 6d.
No. 12—1¼ in. × 14 in., " " 6s. 6d.
No. 13—1½ in. × 16 in., " " 8s.

No. 14—1 in. × 12 in., with Jet only, 4s. 6d.

No. 15—1 in. × 12 in., with Rose and Jet, 6s.

No. 16—1 in. × 12 in., with two Roses and Jet, 6s. 6d.
No. 17—1¼ in. × 16 in., " " 8s.

No. 18—1½ in. × 18 in., 12s. 6d.
No. 19—1½ in. × 18 in., with Ball Valve, 15s. 6d.
N.B.—These are recommended as the strongest and best Syringes that are made

32½ per cent. Discount to the Trade.

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Chapter 49

Early Companies

(Sept 2024 #EC)

Early Companies

Introduction

This chapter covers companies who traded in the mid to late 19th Century about which little is known. Sprayers of this period rarely survive and most that is known comes from early patents, newspaper articles and gardening books. Many of the drawings are of poor quality and are rarely detailed enough to show how the sprayers worked or any details of their construction. Copyright considerations prevent the inclusion of many of the drawings available from the period.

Syringes of the period were mostly of simple construction with rose and/or jet nozzles. The scientific instrument makers were beginning to make syringes with fast-fill valves and other enhancements such as bends and swivel nozzles. Self supplying sprayers, then known as garden engines and hydropults, were commonly advertised for use in the garden or as fire engines. Garden engines were normally based on the force pump and usually had an air chamber. Some of the sprayers were designed to take liquid from a separate container. Other were built into a contain which varied depending on intended use and manufacturer. Wooden barrels were used in early sprayers and from the mid 1800's galvanised containers. Smaller sprayers could also be based on the force pump, but those based on the common pump with a valve in the piston were also in use. An example of this is the HYDROPULT which was an ingenious idea using two side by side and connected common pumps.

In this chapter I have included the companies I have come across who supplied sprayers. Mostly these date from the 1850s to 1880s. If their advertisements are in the public domain, I have included them. Where I know a manufacturer operated into the 1900s or beyond, they will be included in one of the other chapters. This list is expanding all the time as research continues. If any sprayers made by these manufacturers have survived the listings may help to identify and date them.

It is often impossible to establish if these companies actually had any manufacturing facilities or if they were retailers. I have given as much information on this as I can.

Early Companies

Berridge and Son

Windsor, Berkshire. Garden Engine 30 and 40 gallon. The sprayer had a corrugated container and was advertised as having a brass pump. Advertised 1882 and 1883 in *The Field*.

Boulton & Paul - Norwich

Advertisements 1887 and 1912

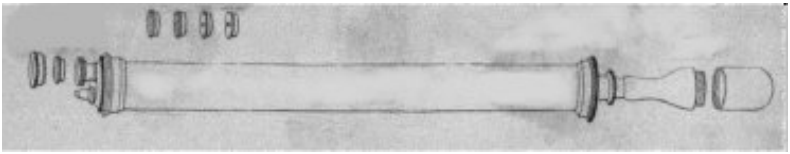
Early Companies

Chadburn Brothers

Judging by the names on different instruments, the company occurred under several names during the 19th century. *William Chadburn* was making barometers in 1816-1817 in Sheffield. *Chapman & Wright* were formed at the same address in Sheffield in 1818 by William Chadburn and David Wright. In 1825 they were advertising optical goods and all kinds of hardware, using water mills to grind their lenses. By 1830, both *Chadburn & Co* and *William Chadburn & Co* were at the Sheffield address and *Chadburn & Son* was operating in Liverpool.

William Chadburn (1780-1840) and Sarah Wright married in 1807. They were Quakers. In 1837, their sons, Alfred (1810-1887) and Francis (1813-1892. Known as Wright in later censuses and electoral roles) took over the Sheffield and Liverpool businesses as Chadburn Brothers, to be joined in 1841 by their brother Charles (1815-1890). Their advertisement from 1845 also mentions a photographic portrait gallery. Adverts from the end of the 19th century describe them as opticians & manufacturers of spectacles and all kinds of optical lenses, optical and mathematical instruments, Albion Works. They had a substantial exhibit at the Great Exhibition at the Crystal Palace in London. The catalogue of the exhibition describes them as of Sheffield and Liverpool. In 1871, the company employed 40 people. In 1893, the company was owned by William T Morgan (1836-1901), a nephew of Chadburn Brothers (the son of their sister Mary). In 1841 at Albion Works, Nursery Street, Sheffield and at Johnson Street.

They have a design dated 1842 for a syringe with a hollow handle for holding the various nozzles (grates and points in their terminology).

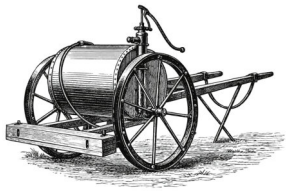


Above :- Chadburn Bros syringe. Note the hollow handle for holding the various nozzles. The syringe appears to have a separate fast-fill valve but the construction of this is unknown. The exchangeable nozzles appear to be jet (points) and rose (grates).

Early Companies

Coleman and Morton

London Road, Iron works, Chelmsford. Three gallon garden engine advertised in Chelmsford Herald 1871 and also in various papers to 1882.



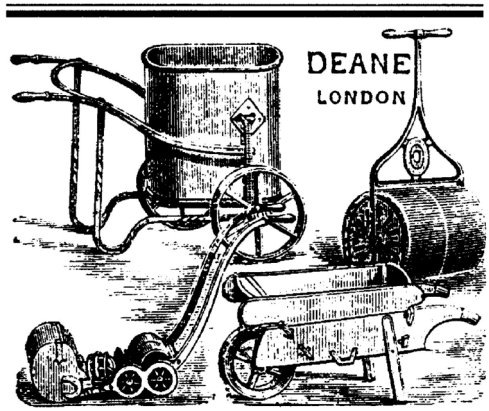
Thomas Crump - Derby

No. 1 Garden engine with spreader. No. 2 new small garden engine with engine. No. 3 large travelling fire engine and also a middle size fire engine.

Deane & Company

London Bridge. Circa 1850.

Early Companies



LAWN MOWERS.
All the best makes in stock:
Excelsior, Invincible,
Godiva, Shanks', Green's,
Ransomes'.
Garden Seats, Tables,
Wirework, Tools, &c.

Swing Water-Barrows.
15 Gall...30/ | 30 Gall.. 46/
20 Gall...36/ | 40 Gall...54/

GARDEN ROLLERS.

Double Cylinder.	*Single.*
20 by 18in.50/	16 by 16in.32/
22 by 20in.55/	18 by 18in.35/
24 by 22in.65/	20 by 20in.45/
26 by 24in.80/	22 by 22in.52/

WOOD BARROW.
Well made and cheap ...24/6
With loose top, as shown, 32/6

DEANE and CO.'S ILLUSTRATED GARDEN CATALOGUE (the most complete published) free by post.
All orders Carriage Paid to any station. Discount for Cash.

DEANE & CO.,

46A, King William Street, } **LONDON BRIDGE.**

(JUNE 1 1889)

The Farringdon Works Ltd

Farringdon Works, Shoe-Lane London EC. Operating in 1895.

Early Companies

Griffiths & Browett

Bradford Street, Birmingham. Maker of The Hydropult based on an 1861 USA patent by William T Vose. Griffiths & Browett were active from the 1860s into the 1890s. The sprayer has two joined together barrels each of which is an implementation of a common pump. Working together these spray on both the push and pull stroke without the use of an air chamber.

Below; - 1876 Advertisement. Copyright Grace's Guide to British Industrial History.

Early Companies

Below; - THE HYDROPULT

THE HYDROPULT,

An Invention for Throwing Water by Hand Power.

SECURED BY ROYAL LETTERS PATENT.

PRICE TWO GUINEAS.

Complete, with 2½ feet Suction and 3 feet Delivery Hose, Galvanized Wire Strainer, Rose and Sprinkler, and Small Jet,

WEIGHS BUT 8 POUNDS.

Will throw 8 Gallons of Water per minute 50 feet, when worked by the power of one man.

THE HYDROPULT has been recommended as an EFFICIENT and USEFUL *Fire Engine, by the principal* FIRE INSURANCE COMPANIES OF GREAT BRITAIN.

Ordered by the War Department as Fire Engines.

Thomas Rivers, Esq., the eminent Florist, Shirley Hibbard, Esq., and other well-known gentlemen, recommend it as an invaluable *Garden Implement*. T. Spencer, Esq., Inspector of the Royal Society for the Protection of Life from Fire, certifies to its efficiency in saving valuable property in Bayswater from destruction.

Hydropult Offices :—27, Leadenhall Street, London, E.C., and at 309, Regent Street, London, W.

CHARLES P. BUTTON, PROPRIETOR.

[Entered at Stationers Hall, by Charles P. Button.]

CAUTION.

IMPORTANT TO THE PUBLIC.

THE extensive sale of the Hydropult has excited the cupidity of so-called respectable, but in reality, unprincipled manufacturers, who are now palming on the public worthless imitations of the Hydropult, and through their connections are enabled to place said devices on exhibition and for sale in many of the principal ironmongery and seed establishments throughout the city and provinces. These devices resemble in many respects the Hydropult in appearance, and are calculated to deceive the unsuspecting, as they are often placed under or near the Hydropult show card. The proprietor, therefore, issues this caution, and respectfully intimates that parties wishing to purchase the Hydropult should examine the machine offered them for sale, and see if it has attached thereto, a label with the following words—"The Hydropult, a Portable Fire Annihilator and Garden Engine, Griffiths and Browett, manufacturers, Birmingham; Charles P. Button, general agents; Vose's patent." Unless this label be attached, the machine is not the Hydropult.

Important communication from William Christian, Esq., Manager of the Baldock Bank :—

February 19th, 1863.

MR. CHARLES P. BUTTON.

DEAR SIR,—It gives me great pleasure to forward you particulars respecting the cottages in this town that were saved on the 1st of January by the use of your Hydropult. The property consisted of a row of ten cottages, separated only from the fire that was devastating three thatched cottages by a narrow passage about one yard wide. By this useful little instrument I was able to keep the gable end immediately facing the fire continually wet, so that when the flames reached it they had very little or no effect. Everyone on the spot seemed very much astonished at the power of this little engine, among whom was the owner of the cottages, who is perfectly convinced, had it not been for the Hydropult, his property must have been consumed.

On the same night I had been to another fire in the town with the same instrument, and did great service. Feeling so satisfied with its performance there, made me take it to the second fire, so that this little engine was pumping away for over six hours altogether, without doing it the slightest injury.

I remain, yours truly,
W. CHRISTIAN.

The *Hereford Mercury*, in speaking of the above fire, says :—"The town engine was as soon as possible on the spot, but found of little use, owing to the inconvenience of getting water. The adjoining range of tenements were saved almost entirely through the exertion of William Christian, Esq., manager of the Baldock Bank, who brought to the scene a Hydropult, which, being kept well supplied with water by hand buckets, was made to play with great effect."

[*See other side.*

Haynes & Son Ltd

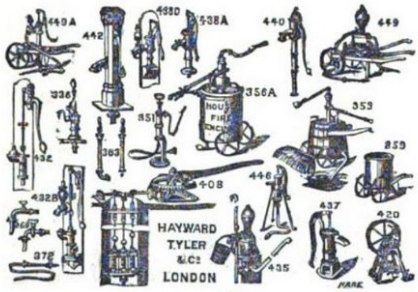
Edgeware Road London. Operating in 1869. Noted for an improved garden syringe.

Early Companies

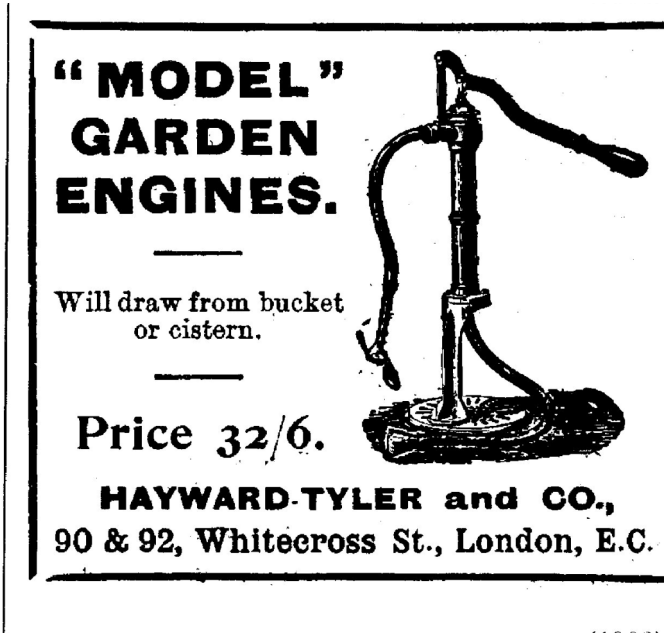
Hayward, Tyler & Co.'s

90 & 92, Upper Whitecross St. London. Established in 1815 and still in business in 2022.

STEAM PUMPS FOR IRRIGATION, HORSE PUMPS, &c. (see below.)



The Numbers refer to HAYWARD, TYLER, & CO.'S, Priced

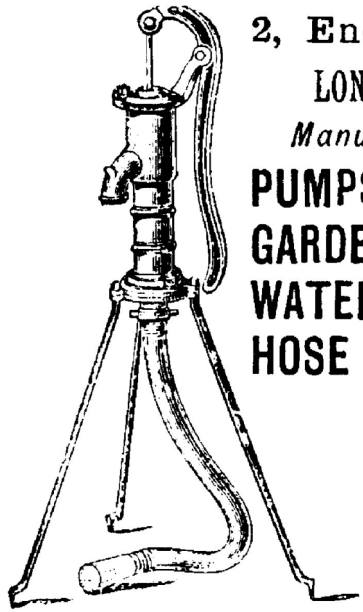


Early Companies

Heathman & Co

2 Endell Street London WC. Manufacturers of Pumps,Garden Engines, Water Barrows, Hose Reels, Tanks, Syringes and Hydropults.

HEATHMAN & CO.,



2, Endell Street,
LONDON, W.C.
Manufacturers of

PUMPS,
GARDEN ENGINES,
WATER BARROWS,
HOSE REELS,
TANKS,
SYRINGES,
HYDROPULTS,
&c.

2¼ in. Bore, 15/6, Hose extra.
IRON LIFT PUMP.

Illustrated Price Lists post free, and all goods sent carriage paid.

(1889)

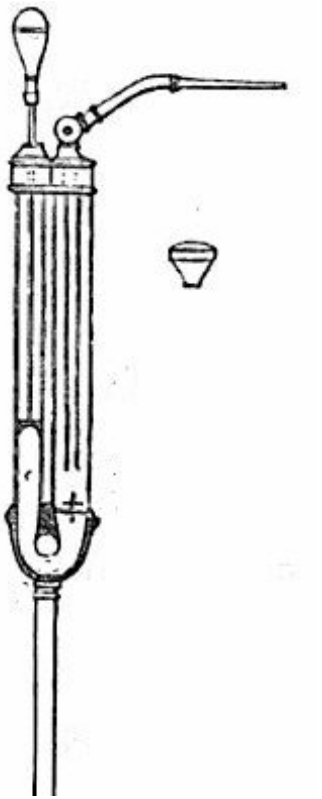
Early Companies

Johnston

An 1820s manufacturer of ‘a portable garden engine’.

Phoenix Works, Tovel, Maidstone, Kent.

Left :- Johnston’s improved garden engine. This sprayer is an implementation of a force pump with air chamber. On the pull stroke an inlet valve opens and an outlet valve closes. Liquid is sucked into the left hand side of the sprayer. On the down stroke the inlet valve closes and the outlet valve opens so that liquid is force through outlet tube and the nozzle. Surrounding the outlet pipe is an air chamber. On the push stroke some air is trapped in this. On the pull stroke this compressed air causes liquid in the outer barrel to continue the spraying action. Sprayers like this can produce a powerful spray and could be used for many purposes, including garden use, cleaning and firefighting.



Early Companies

C P Kinnel & Co Ltd

Southwark Street, London SE1.

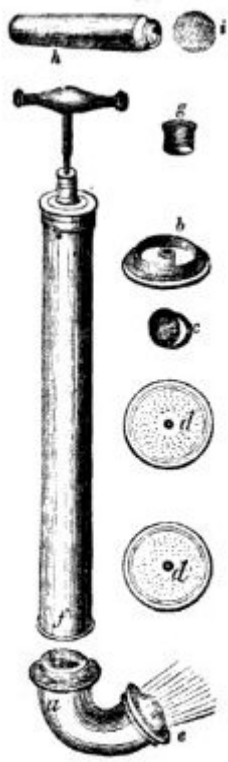
An established London engineering firm specialising in heating systems, active at least into the early 20th century. Could have been the manufacturer of this semi-rotary pump.

(MAY 7 1923

Early Companies

Daniel Macdougal

Macdougal's inverted syringe. Known from circa 1835.



This syringe could be used inverted as illustrated or turned into a normal syringe. The nozzles were fitted with fast-fill valves which used a leather flap. A punch was provided so that the user could make their own replacement washers. The piston would have been of the cotton reel type. It included a wire grating filter.

Merryweathers & Sons Ltd

63 Long Acre, London WC.

Operating circa 1892.

Early Companies

John Morris & Sons

Salford Fire Engine Works, Manchester.

Operating circa 1894. A fire engine which could be used as a garden engine.

CORRIDOR FIRE ENGINE

(It is also an excellent Garden Engine.)

The special feature of this Engine is the large quantity of water the cistern will hold, and the ease with which it can be wheeled about when filled with water. This makes it a most desirable little Fire Engine for buildings where floors are of large area, as it contains sufficient water to supply the Pump several minutes. It is also fitted in the front with folding handles, by means of which the Engine can be carried up and down stairs. The pump and valves are made entirely of gun-metal, with 3-inch brass cylinder and large polished copper air-vessel, and therefore will not corrode like other makers' Engines of this design.

The Engine is Handsomely finished in vermilion, and occupies a space of 3 feet by 2 feet. It will force a jet of water 50 feet. The hose and nozzle should always be kept connected ready for immediate use.

PRICE of Engine, including nozzle and hose coupling	£6 10s. 0d. each.
If with patent noiseless elastic india-rubber tyres, on wheels	15s. 0d. extra.
Spreading Nozzle	5s. 0d. „
Hose Piping, per foot	8d. „

Ten or twenty feet is recommended with each Engine.

LONDON BRIGADE PORTABLE HAND PUMP.

COMPACT, CHEAP, POWERFUL, and EFFICIENT.

This is the only description of Hand Pump used by the London Fire Brigade.

The apparatus complete when empty weighs only 20 pounds.

The Pump is fixed in a pail holding 6 gallons of water, and is always ready for use.

It can be used by a boy or female servant, the handle being worked by one hand, whilst the nozzle is directed by the other, and will project a powerful stream of water a distance of 30 to 40 feet, the water in the pail being replenished by means of buckets.

NO PRIVATE RESIDENCE, BOARDING SCHOOL or HOTEL

Should be without this approved and inexpensive safe-guard against the spread of Fire.

This Pump occupies a very small space, and can be kept in any convenient situation ready for immediate use. It is easily managed by any domestic, and is not liable to get out of order.

PRICE.—Brigade Hand Pump, fixed in handsomely painted Pail, with Cover and polished Brass Handle, Hose fitted to screw and Jet complete .. .. £3 3s. 0d.

JOHN MORRIS & SONS, Salford Fire Engine Works, MANCHESTER.

Early Companies

S Owens & Co.

Whitefriars Street London.

Operating circa 1879.

Pontifex & Wood Ltd

Shoe LANE, London EC. Operating 1873. See The Farringdon Works Ltd.

Left :- Seems to be a semi rotary pump with an air chamber.

The Farringdon Works Ltd, occupied the same premises later and were selling the same machine.

Early Companies

John and Richard Read

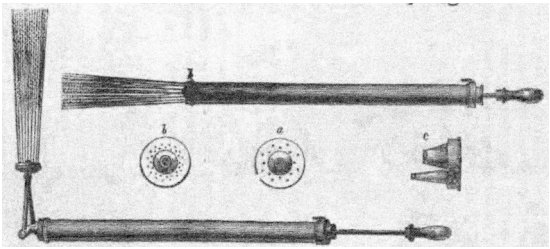
35 Regent Circus, Piccadilly, London

John Read (1760-1847) was a gardener in Horsmonden Kent. In 1819 he invented a syringe with a fast-fill valve controlled by ball valve. The patent for this was taken out in August 1820. The concept could be adapted for use in a number of ways, including for medical uses. He is most famous for Read's Patent Syringe and Stomach Pump. He also invented a self supplying sprayer, which had an air reservoir, and various other barrow sprayers. His inventions are principally about the use of ball valves and, as far as it can be determined from the drawings, based on the force pump.

In 1848 an article suggests that the Read syringes were being manufactured by John Warner and Sons.

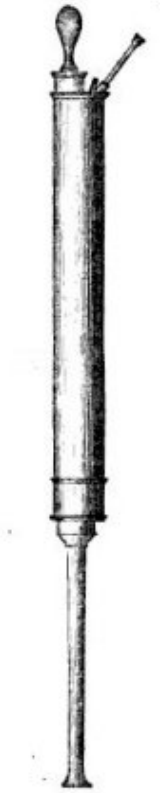
John and Richard are in the census for 1841 living in Regent Circus Piccadilly London. The relationship between John and Richard is not certain but Richard may have been John's nephew. Both shown as surgical instrument makers. Richard was born in 1802 and is in the census for 1851, and 1861, still as a surgical instrument maker. There are entries for Richard in the Great Exhibition of 1851 and for the London Exhibition of 1862. The 1862 entry includes a picture of 4 types of sprayer. In 1871 and 1881 Richard is shown as a retired surgical instrument maker. Richard moved to Kingston Upon Thames sometime after 1851, but it is not known if the business remained in London. He died on 18 May 1887.

The syringe uses a central fast-fill valve controlled by a ball rather than the leather/metal washer type used by Macdougal and others. The ball valve was also used in his other sprayers.



Early Companies

Left :- Read's Patent sprayer. Photograph with permission of Clive Gravett, Museum of Gardening, Hassocks, Sussex.



Early Companies

READ'S PATENT

HORTICULTURAL ENGINES, &c.

Fig. 1. A GARDEN BARROW ENGINE on wheels; the Vessel, which is made of Galvanized Iron, contains about Twenty-eight Gallons, adapted for watering Wall and Standard Trees and Plants in the Open Garden, furnished with flexible tube and mounts for discharging water in a powerful current a distance of Fifty feet. Likewise roses for dispensing water, in form of a gentle shower, on the choicest Wall Trees, even while in bloom, without injury. *Price £8.*

Fig. 2. READ'S HORTICULTURAL ENGINE, on the same new patent principle as Fig. 1, but of smaller dimensions. The Vessel contains about Twenty Gallons; keeps up a constant stream like the Double Action Pumps dispersing water either in a powerful current, or so fine as not to injure the most tender plants and trees in bloom. *Price £5 5s.*

The same Pump fixed in a GALVANIZED IRON PAIL. *Price £3 10s.*

Dublin Evening Post - Saturday 03 April 1830

PATENT STOMACH PUMPS, AND PATENT SYRINGES,
Manufactured By JOHN READ, REGENT CIRCUS, LONDON

THE Public is informed, that a supply lie above Instruments has just been received, direct from the Manufacturer, which will be sold the London prices. As Frauds have been carried on to considerable extent, and as persons applying for Read's Instruments in the Country have been sold spurious articles,

not of Read’s manufacture, and which, after trial or two, have been found neither perfect, durable, or effectual—the Public warned that the Proprietor’s name (Read) is marked upon every instrument of his manufacture, to forge which is felony. Sold, at BUTLER'S Medical Hall, Lower Sackville-street, Dublin, where printed directions may had gratis.

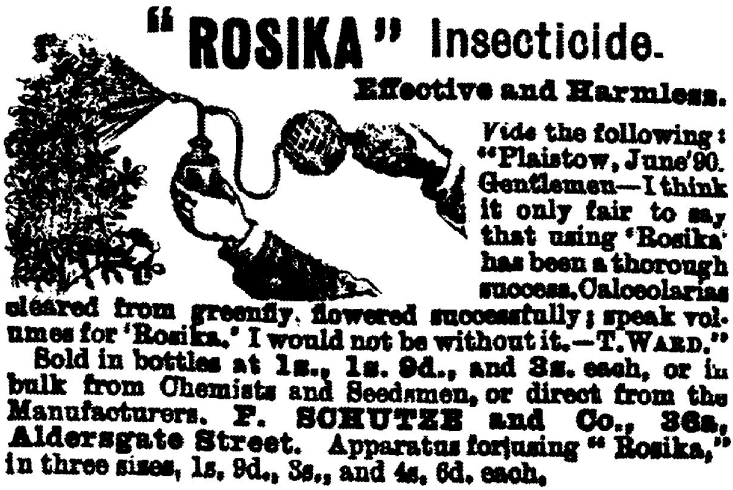
Yorkshire Gazette - Saturday 14 March 1835

MISCELLANEOUS. NOBLEMEN & GENTLEMEN, The veterinary Profession, and every Person engaged in the the Breed and Rearing Cattle. JOHN READ, Instrument Maker to his Majesty, Patentee the Stomach Pump, &c is now enabled to lay before the Public a much improved form his Stomach pump Injecting Instrument, for Horses, Cattle, Sheep, and Dogs, by which diseases hitherto almost invariably fatal, may be successfully treated, and diseases of the stomach of ruminants admit of immediate and certain relief. J. Read has also added the former apparatus of the Pump flexible tube, by which the bladder of the Horse and other large Animals can with the greatest ease be injected or ejected. This, retention urine and difficulty of staling, and several other conplaiuts of the urinary organs, has been a desideratum long wished for, but not obtained.—Manufactured and Sold by John Head, 35, Regent Circus, Piccadilly..

Early Companies

F Schutze & Co

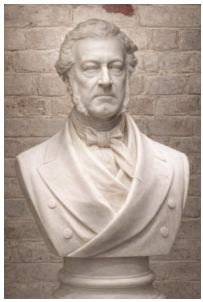
Aldersgate Street, Manufacturing Chemist. Operating around end of 19th Century. Produced ROSIKA insectide. They may have manufactured the sprayer or these may have been bought in.



(SEPTEMBER 1891)

Augustus Siebe

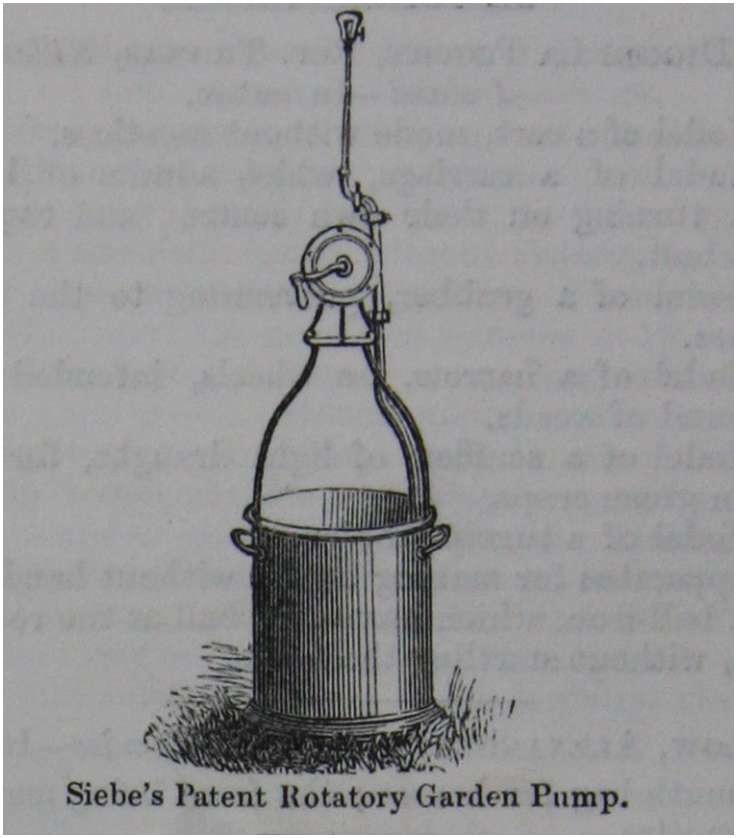
5 Denmark Street, Soho London.



Augustus Siebe was born in Saxony, Germany in 1788 and became an apprenticed metalworker in Berlin. Around 1815 he came to Britain and settled in London. His main claim to fame is his work on diving suites, but he also made medical instruments and garden syringes. Augustus Siebe and his son in law became partners forming Siebe Gorman Ltd, but although this company continued for many years they appears to have concentrated on the diving business.

Early Companies

Above :- Augustus Siebe syringe. This had a mechanism for turning from a jet to a rose by turning a pin. It also had a swivel nozzle.



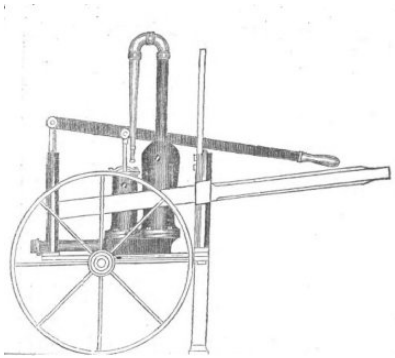
Above :- Augustus Siebe's Patent Rotary Garden Pump. From the official 1851 Great Exhibition catalogue.

Early Companies

W J Tilley

Blackfriars, London. Trading 1837.

Below :- Tilley's garden engine. This would appear to be an implementation of a force pump sprayer with an air chamber.



Tonge & Sons

Birmingham, Stamford Mercury 1824.

Treggon & Co

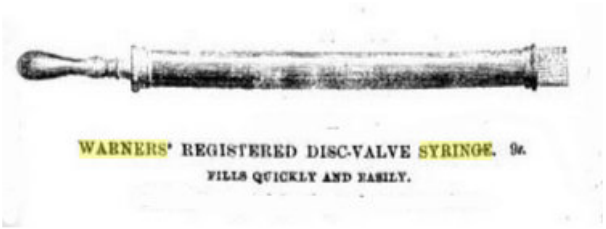
22 and 23 Jewin Street and 57 Gracechurch Street London 1850s to 1890s. In April 1883 they are mentioned in Garden Illustrated as the supplier of the WATER WITCH, Garden Engine which was made of brass and galvanised iron. It appears to be a simple force pump.

Early Companies

John Warner and Son Ltd

8 Crescent, Cripplegate, London EC.

John Warner and Son Ltd, are primarily known as bell founders. Formed in 1739 they continued in business until 1949. Pumps and sprayers seem to have been part of the business until the mid 1860s. In 1872 they have a registered design 5347 (National Archives BT 45/27 /5347) for a spray head with a reversible nozzle.



WARNERS' REGISTERED DISC-VALVE SYRINGE. 9s.
FILLS QUICKLY AND EASILY.

No. 5674.
WARNERS'
IMPROVED PATENT DOUBLE ACTION SYRINGE,
with 5 feet of flexible Suction Pipe, 21s.
Is much improved since last season.
It economises a gardener's time.
To draw from a water-pot, pail, or other vessel.

No. 554.
WARNERS'
GALVANISED IRON GARDEN ENGINE,
WITH REGISTERED SPREADER.

10 gallons	...	£2 15s.
16 ,,	...	3 15s.
24 ,,	...	5 0s.

WARNERS'
PORTABLE LIQUID
MANURE PUMP,
WITH LEGS,
£2 15s.

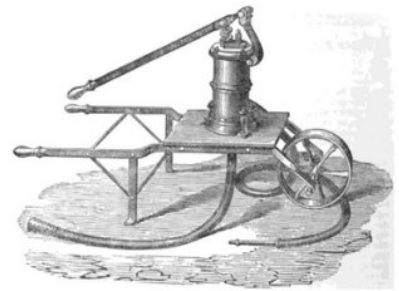
Do. for fixing to cart,
£2 5s.

uction Pipe for Pump,
2s. 5d. per foot.

No. 42.

Early Companies

Now Patent Self-filling Syringe, "THE GARDENER'S FRIEND." A child can work it. Supplied with or without reversible rose and jet.



THE CRYSTAL PALACE FIRE ENGINE and GARDEN PORTABLE FORCE PUMP.

Price on Barrow, with Branch Pipe, Spreader, Unions, and Suction Hose, £6.
1¼-in. 2-ply Rubber Suction Pipe, per foot, 2s. 2d.
1¼-in. ditto Delivery Hose, 1s. 4d.

No. 546. WARNER'S GARDEN ENGINE, recommended for orchard houses and conservatories.
A large variety of fountain designs for lawns or conservatories can be seen at the manufactory.

Early Companies

Fig. 1.—Warner's Lift and Force Pump.

fixed on a wheelbarrow frame it is moved about with ease. When any considerable length of pipe is used two men will be required to work it. It should be placed beside the tank, with the sucker inserted, and water may be distributed for rods around it.

Fig. 2.—Warner's Portable Garden Engine.

watering-pot, as well as a pump with a pipe and spreader for syringing and cleaning plants and trees. When used for the

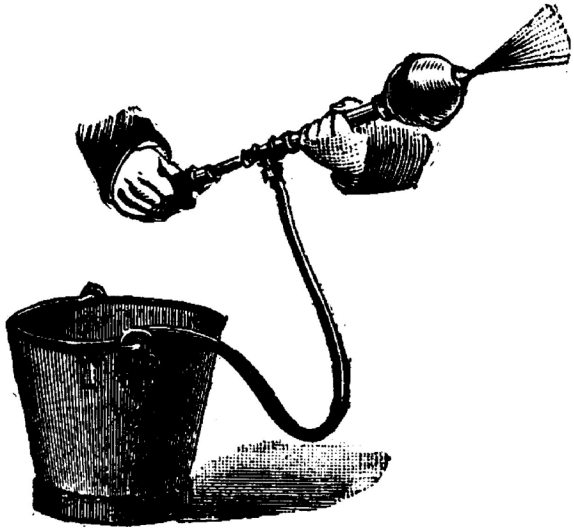
Fig. 3.—Watering and Rolling Engine.

latter purpose the water-spreader behind is taken out and a plug inserted. It has iron wheels, while the body is made of

Early Companies

R & W Wilson & Sons Ltd

90 Wardour Street London W, Seller of the patented CHELTENHAM sprayer,



THE CHELTENHAM GARDEN SYRINGE

(PATENT).

The Handiest, most Convenient, and Effective Syringe ever produced.

It gives a CONTINUOUS STREAM of over 30 feet with use of jet, or will cover a large area with a splendid fine spray, with the rose attachment. It is fitted with 5 feet of suction hose, thus preventing any stooping by the user, and it has received the highest praise from horticulturists.

Price, complete, in strong box, carriage paid, 20s., of

R. & W. WILSON & SONS (Ltd.),

90, Wardour Street, London, W.

Or may be obtained of any respectable Ironmonger in the United Kingdom.

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Chapter 50

Retailers

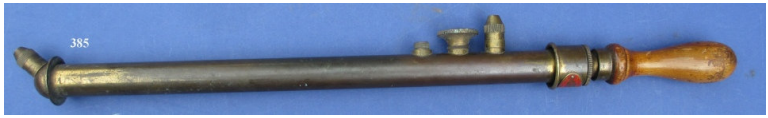
Retailers

Introduction

This chapter covers retailers who had sprayers branded with their name or logo. Some retailers may be found under manufacturers. where I think this more appropriate.

A A Baker Ltd

89/90 London Road, Brighton. Sporting goods shop with small engineering works at back of shop. Active in the 1950s. Some of the sprayers they sold were supplied by Ernest Hill but badged as A A Baker, Grub Sprayer. See also Ernest Hill.



Above :- [385] Brass syringe with gold lacquer . Plate for A A Baker, Brighton, Grub Sprayer. Barrel length 16 inches and diameter 1 inch. Drip protector 1 inch long. Fixed nozzle head with two spray nozzle (one missing) and one rose nozzle. Spray nozzles have an integrated fast fill valve controlled by a cone shaped component. Solid brass piston rod $^{5}/_{16}$ inch in diameter. Spring on piston rod. Both ends of the barrel have a collar.

Blake and Beeley

Blake and Beeley Ironmongers, Church Street, Mansfield, England

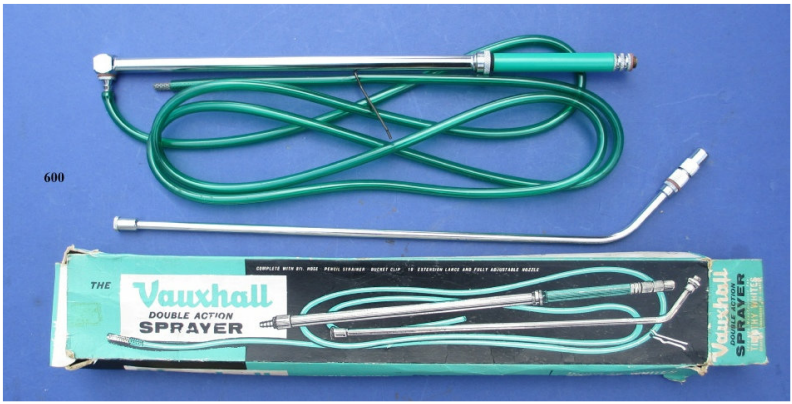
The business was founded in 1879 by John Henry Blake (Mayor in 1895 and 1906). He went into partnership with Mr Beeley in 1896.

Retailers

Above :- [978] {5} Brass syringe sprayer. Probably manufactured by Donald Edwards and badged by Blake and Beeley. Barrel length 18 inches with a diameter of 1¼ inches. Rose, jet and spray nozzle. The spray nozzle with a integrated fast-Fill valve controlled by a cone shaped component (see above). Bend. Badged BLAKE AND BEELEY IRONMONGER MANSFIELD. Solid brass piston rod ⅝ inches in diameter.

Boots the Chemist

Nottingham. Boot took over Timothy Whites in 1968, but operated stores in the Timothy Whites name until 1985. From 1973 to 1985 Timothy Whites sold only household goods. Models include hand sprayers, pneumatic sprayers, and double action sprayer.



Above :- [600] The Boots Vauxhall Sprayer. This is a simple double action sprayer. Barrel length 12 inches and diameter ½ inch. Valves controlled by a brass ball. The piston is a rubber 'O' ring. A number of manufacturers made something similar and one of them probably made this one for Timothy Whites.

Retailers

Above :- [445] The Boots Handheld Sprayer. Jar 5 inches in height.

Above :- [514] The Boots Handheld Sprayer. Barrel length 9 inches and diameter 1¼ inches. Container 4 inch diameter and height 4 inch. Engraved 'Made in England'. This is an air-pump atomising sprayer. The barrel is a simple air pump with a forward facing leather cup washer supported by a large metal washer. The pump pressurises the container forcing liquid out through the nozzle, but air is also forced out through the nozzle mixing with the liquid to form an atomised spray. The front valve may be a ball valve but without destructive dismantling this can't be confirmed. Piston rod is solid steel and has a spring. Two nozzles giving fine and medium spray. Similar to a Nesthill COSMO sprayer and may have been made by them.

Retailers

Left :- The Boots Pneumatic Sprayer.

The Briton Ferry Chemical & Manure Company Ltd

Chemical Manufacturer. Sprayers made with their logo by Ernest H Hill Ltd. Founded 1886 and known to be operating in 1935. At one time they had their own railway wagons. On the 20 April 1935 the Western Mail reports that the Company had made a loss of £9913.00 in 1934. It was probably not operating much longer after this.

Retailers

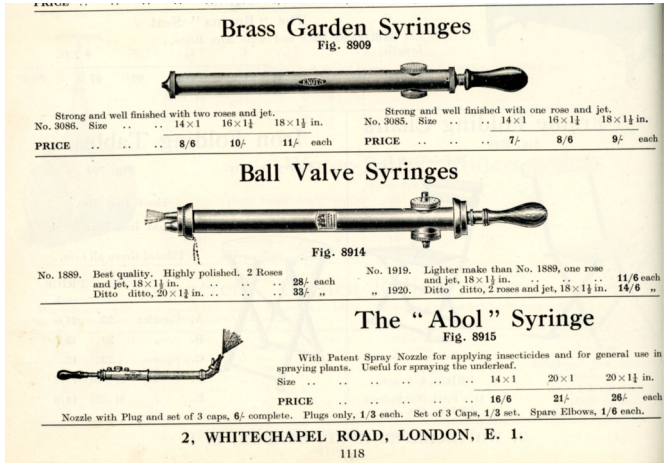
Above :- [124] Brass syringe sprayer. Plate for BRITON FERRY CHEMICAL AND MANURE CO LTD. Barrel length 20 inches and diameter 1 inch. Removable bend. Spray nozzle with integrated fast fill valve based on a cone. Rose nozzle and holder on barrel. Hollow brass piston rod ⅜ in diameter. Back-to-back leather cup washer piston.

Buck & Hickman, 2 Whitechapel Road, London E 1.

Established in 1830, Buck & Hickman was the UK's first major tools distributor. The company continues under the Rubix name. There 1935 catalogue features syringes by Benton and Stone, and Abol. Also, a garden engine of unknown manufacture.

In 1953, 1958 and 1964 they were a major supplier of Donald Edward sprayers, but they also featured sprayers by Dron-Wal, Monitor and Mysto. For more information see these manufacturers.

Below :- 1935 Catalogue (Syringes)



Brass Garden Syringes

Fig. 8909

Strong and well finished with two roses and jet.

No. 3086. Size	14×1	16×1½	18×1½ in.
PRICE	8/6	10/-	11/- each

Strong and well finished with one rose and jet.

No. 3085. Size	14×1	16×1½	18×1½ in.
PRICE	7/-	8/6	9/- each

Ball Valve Syringes

Fig. 8914

No. 1889. Best quality. Highly polished. 2 Roses and jet, 18×1½ in. .. .. .. 28/- each
Ditto ditto, 20×1½ in. .. .. .. 33/- „

No. 1919. Lighter make than No. 1889, one rose and jet, 18×1½ in. .. .. .. 11/6 each
„ 1920. Ditto ditto, 2 roses and jet, 18×1½ in. 14/6 „

The "Abol" Syringe

Fig. 8915

With Patent Spray Nozzle for applying insecticides and for general use in spraying plants. Useful for spraying the underleaf.

Size	14×1	20×1	20×1½ in.
PRICE	16/6	21/-	26/- each

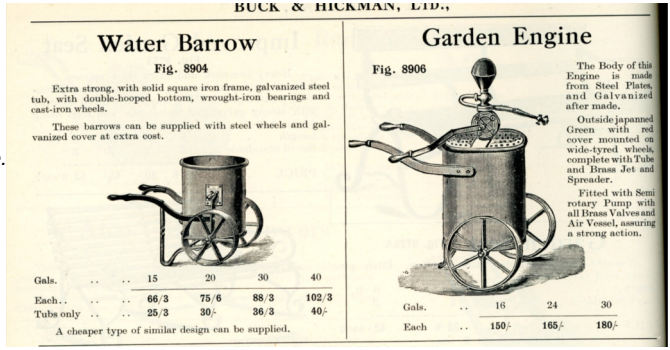
Nozzle with Plug and set of 3 caps, 6/- complete. Plugs only, 1/3 each. Set of 3 Caps, 1/3 set. Spare Elbows, 1/6 each.

2, WHITECHAPEL ROAD, LONDON, E. 1.

1118

Retailers

1935 Catalogue.



BUCK & HICKMAN, LTD.,

Water Barrow

Fig. 8904

Extra strong, with solid square iron frame, galvanized steel tub, with double-hooped bottom, wrought-iron bearings and cast-iron wheels.

These barrows can be supplied with steel wheels and galvanized cover at extra cost.

Gals.	..	..	15	20	30	40
Each..	..	..	66/3	75/6	88/3	102/3
Tubs only	..	..	25/3	30/-	36/3	40/-

A cheaper type of similar design can be supplied.

Garden Engine

Fig. 8906

The Body of this Engine is made from Steel Plates, and Galvanized after made.

Outside japanned Green with red cover mounted on wide-tyred wheels, complete with Tube and Brass Jet and Spreader.

Fitted with Semi rotary Pump with all Brass Valves and Air Vessel, assuring a strong action.

Gals.	..	16	24	30
Each	..	150/-	165/-	180/-

Carter's Tested Seeds, Raynes Park, London

Well known seed merchant and retailer of a wide range of plants and garden sundries.

.

In 1933 Carters were selling a Nesthill syringe, an Abol syringe and one described as the Reids Patent syringe.

Above :- [277] Syringe with Carter's plate. Barrel length 20 inches and diameter 1¼ inches. Purser type drip preventer 8 inches long. Fitted with a rose nozzle with a ball type fast-fill valve. The ball is held in by a cage. There appears to be a missing nozzle which was probably a spray. Although shown as being adjustable the piston is a ½ inch cotton reel and looks original. 'Adjustable' may refer to a missing spray nozzle. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. There are collars on both ends of the barrel.

Above :- [296] Weed exterminator. Made by Ernest H Hill Ltd, but badged for Carter's. Length 31 inches. Designed to dispense weed killer.

Retailers

Peter Cassidy Ltd. (Hull)

Retailer. Operating 1930 to 1950s. PECAL brand.

Above :- Syringe with Pe Cal logo. Barrel length 16 inches and diameter ⅞ inch. Solid brass piston rod $^{5}/_{16}$ inch in diameter with back-to-back cup washers. Removable spray nozzle with an integrated fast fill valve. The fast fill valve is a hexagonal stud and liquid flows through a hole in the side and out through the centre of the stud. Maker unknown.

Above :- [754] Barrel length 18 inches and diameter 1½ inches. Solid brass piston rod $^{5}/_{16}$ inch in diameter with a forward facing leather washer. May be missing a second cup washer. It has a spring on the piston rod. Two rose nozzles both with ball operated fast fill valves. Jet nozzle. Stuffing box and collars on both ends of barrel.

Collings & Wallis

223 King Edwards Road, Birmingham.

Factors, General Merchants and Manufacturers, Birmingham. Active from 1860s to 1890s. Metal products including knives and silver. Sold spraying equipment. The firm was founded by the 1860s by two ironmongers, Jesse Collings (1831-1920) and Charles Wallis (1831-1905). Collings withdrew in 1879.

Advertised as selling sprayers.

Retailers

Condrup Ltd

77 and 78 Fore Street, London, EC2. 1931 catalogue of stock lines is held by St Helens, Archive Service. They sold a wide range of goods. Active 1888 to 1960.

Three sprayers are known, the SUNBEAM, CONOMIST and CON TWO_WAY. The CON TWO_WAY is fitted with the two way nozzle which is used in the R Harris (Brasssfounders) Ltd, ROSENJET sprayer. One of these in my collection has the patent number 217297 stamped on the barrel and the nozzle. From this It seems reasonable to assume that these sprayers were made by R Harris Ltd for Condrup.

Above :- [249] CON TWO-WAY sprayer. Barrel length 14 inches and diameter 1¼ inches. Note that the barrel diameter is smaller than that of a standard ROSENJET (1½ inches). It has a cotton reel type piston a ½ inch long on a hollow brass piston rod $^{5}/_{16}$ inch in diameter. Two way Rose/Jet nozzle as used on R Harris ROSENJET sprayer. Collars on both ends of barrel.

Above :- [274] CON TWO-WAY sprayer. Barrel length 18 inches and diameter 1¼ inches. It has a cotton reel type piston a ½ inch long on a hollow brass piston rod $^{5}/_{16}$ inch in diameter. Two way Rose/Jet nozzle as used on the R Harris ROSENJET sprayer. Collars on both ends of barrel.

Above :- [757] CON TWO-WAY sprayer. Plate reads "CON TWO WAY SYRINGE". Barrel length 18 inches and diameter 1 $^{7}/_{16}$ inches. It has a cotton reel type piston ⅝ inch long on a hollow brass piston rod $^{5}/_{16}$ inch in diameter. Collar on both ends of barrel. Nozzle is of the R.Harris ROSENJET type.

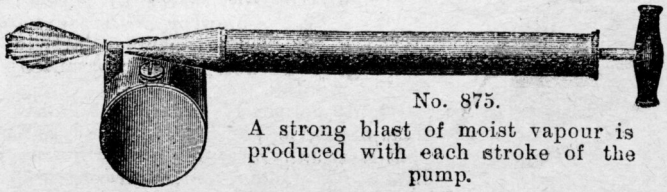
Retailers

William Cooper Ltd

761 Old Kent Road, London SE. ‘THE GARDENERS AND POULTRY KEEPER’S GUIDE AND ILLUSTRATED CATALOGUE OF GOODS MANUFACTURED AND SUPPLIED BY W.COOPER LTD’, published about 1910 contains thousands of items. These include complete houses, billiard tables, lighting and gas fires. Several pages are devoted to watering and spraying equipment. Two sprayers are specifically mentioned as being ‘ENOTS’ (Benton & Stone Ltd), but in most cases the manufacturer is not specified. The company is thought to have started about 1886. In 1915 in the publication TRUTH they are criticised for their slow delivery. In 1916 in the Bath Chronicle and Weekly Gazette they are mentioned as being sued for non delivery of a greenhouse. This is the last mention to be found of the company.

Vaporiser.

The most Economical Distributor of Disinfectants and Insecticides.



No. 875.

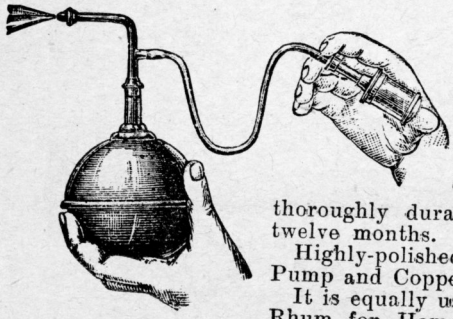
A strong blast of moist vapour is produced with each stroke of the pump.

Enamelled Tin, 4s. 6d.; Brass, 7s.; post paid 6d. extra.

565

Pneumatic Spray Diffuser,

For Use with Insecticides, &c.



No. 878.

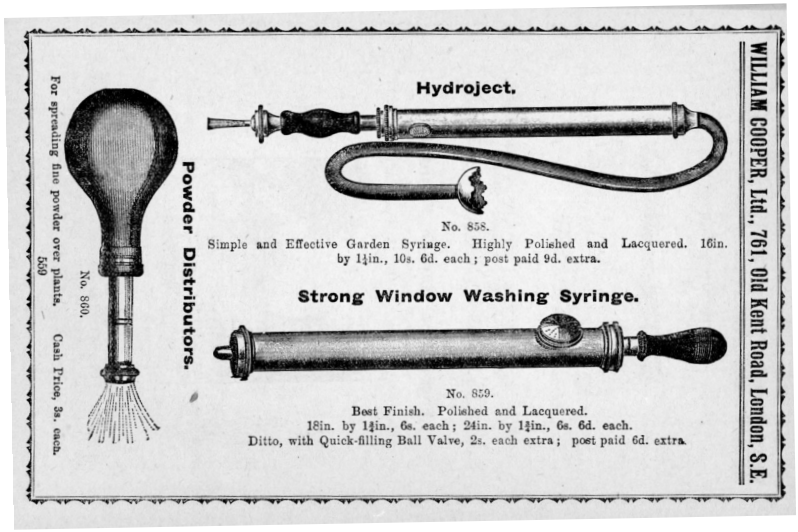
SPECIAL FEATURES.—Produces a beautifully fine spray; no corrosion possible; no rubber ball or valves to perish; no blowing with the mouth. The whole article is thoroughly durable, and warranted for twelve months.

Highly-polished Brass Jet and Air Pump and Copper Bottle, post free 6s.

It is equally useful for distributing Bay Rhum for Home and Hairdressers' use, and also for Spraying Disinfectants and Deodorisers in sick rooms and hospitals.

Retailers

Below :- Page from William Cooper Ltd catalogue dating about 1910. .



WILLIAM COOPER, Ltd., 761, Old Kent Road, London, S.E.

Hydroject.

No. 858.
Simple and Effective Garden Syringe. Highly Polished and Lacquered. 16in. by 1¼in., 10s. 6d. each; post paid 9d. extra.

Strong Window Washing Syringe.

No. 859.
Best Finish. Polished and Lacquered.
16in. by 1¼in., 6s. each; 24in. by 1¾in., 6s. 6d. each.
Ditto, with Quick-filling Ball Valve, 2s. each extra; post paid 6d. extra.

Powder Distributors.

No. 860.
For spreading fine powder over plants.
559 Cash Price, 3s. each.

Retailers

Below :- Page from William Cooper Ltd catalogue dating about 1910.

WILLIAM COOPER, Ltd., 761, Old Kent Road, London, S.E.

Flower Syringe. Rose only.

Fine Spray.

No. 854.

6in. by ¼in., 11d.; 8in. by ⅜in., 1s. 2d.; 10in. by ⅜in., 1s. 5d.; 12in. by 1in., 1s. 9d. each. Postage and Packing 3d. extra.

Branch Pipe. Rose and Jet.

Highly Polished and Lacquered.

No. 855.

¼in., 1s. 2d.; ⅜in., 1s. 6d.; ½in., 1s. 9d. each, post paid 2d. extra.

Branch Pipe. Stop Tap. Rose and Jet.

BEST QUALITY.

No. 856.

¼in. 1s. 8d.; ⅜in. 2s. 0d.; ½in. 2s. 3d. each; post paid 3d. extra.

Heavy Tap Unions.

No. 857.

Well Made. Good Rubbers.

¼in. .. ⅜in. .. ½in.
9d. .. 1/- .. 1/2 each.

Post paid 2d. extra.

558

Retailers

Corry & Co Ltd

Shad Thames, London SE1 (1946 address).

Corry & Co. London are known to be the manufacturer of a number of garden products. Active from 1880 to 1975. Their 1946 list includes Summer Cloud, New Shading for Greenhouses, White Fly Death, Slug Death, Derris Powder and Liquid, DDT Power and Liquid, Bordeaux Mixture, Ready Greased Bands, Fruit Tree Grease.

G W Purser Ltd made a syringe branded for Corry & Co London, but there are also syringes with their logo which cannot be attributed to a specific manufacturer.

Above :- [76] Corry & Co brass syringe. Barrel length 16 inches and diameter ⅞ inch. Piston is back-to-back cup washers on a hollow brass piston rod ⅜ inch in diameter. Removable bend. Removable spray head incorporating a spray nozzle and a separate fast fill valve. Rose nozzle and holder. Suggested date 1950s. The bend is embossed DRON-WAL. This could be a later addition or indicate the actual maker of the syringe. Collar only on the nozzle end of barrel.

Above :- [202] Corry & Co brass syringe. Barrel length 16 inches and diameter ⅞ inch. Piston is back-to-back cup washers on a hollow brass piston rod ⅜ inch in diameter. Removable bend. Removable spray head incorporating a spray nozzle and a separate fast fill valve. Rose nozzle and holder. Suggested date 1950s. Collar only on the nozzle end of barrel.

Above :- [92] {3} The NIQUAS insecticide syringe made for Corry & Co, London. Manufacturer's plate (left) mentioning the syringe is made to the ARNOLD patent. Brass syringe 20 inches long and 1 inch in diameter. Full size Purser drip preventing sleeve 9 inches long. Piston rod is ⅜ inch hollow brass. The Piston is of the cotton reel type. As an ARNOLD syringe this would have originally had the patent nozzle, but this is missing and only the rose remains.

Retailers

Above :- *[576] TOBRUK brass syringe. Barrel length 16 inches and diameter ⅞ inch. Fixed spray head with a separate fast fill valve. Ball held in by a fixed bar. Piston is back-to-back leather cup washers. Piston rod is solid brass $^{5}/_{16}$ inch in diameter. The TOBRUK syringe has elsewhere been attributed to Wm Corry Glasgow, but I have been unable to confirm this. Fixed spray head without a collar on the handle end of barrel.*

Above :- *[881] Brass syringe. Barrel length 16 inches and diameter 1 inch. Fixed spray head which does not appear to have a fast-fill mechanism. This suggests that it might have produced a coarse spray. The handle and piston rod are not the originals. For this reason, no details are given. The barrel end cap screws directly onto a thread on the barrel. Despite its poor condition, it is included here as it is believed to be early, probably pre WW II.*

Retailers

Country Gentlemen's Association

Letchworth.

The C.G.A produced an annual price book from the 1890s to the 1960s. These included a very wide range of products of interest to Country Gentlemen. Syringes and sprayers (garden engines) were included in many of these. Some were sold under the brand name of the manufacturer. Four Oaks and Abol feature in some of the books. However, they also sold some sprayers under their own name. At least some of these had a CGA plate but how many is unknown. The following are some examples from my collection.

Above :- [477] Brass syringe with Country Gentlemen's Association plate. Barrel length 20 inches with a diameter of 1⅜ inches. Two rose nozzles both with a central fast fill valve. These are controlled by a ball. Jet nozzle with a side fast fill valve also controlled by a ball. Holders on barrel for nozzles not in use. Hollow brass piston rod ½ inch in diameter. Piston is of the cotton reel type an ½ inch in length supplemented by a forward facing cup washer.

Above :- [622] Brass syringe with Country Gentlemen's Association plate. Barrel length 20 inches with a diameter of 1 inch. Purser type drip preventer 7 inches long. Spray nozzle controlled by a cone shaped component. Also, a rose and jet nozzle. Holder on the barrel for nozzle not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Piston is of the cotton reel type an ½ inch in length. Both ends of the barrel have a collar.

Retailers

Dicksons & Co (Edinburgh)

Dicksons & Co, Waterloo Place, Edinburgh. Known to have been operating in 1868 until at least 1921. They were a Nursery, Seedsmen and Florist. Sold syringes badged with their name. Manufacturer unknown.

Above :- [136] Brass syringe. Barrel length 18 inches and diameter 1½ inches. Cotton reel piston ½ inch in length. Hollow brass piston rod ½ inch in diameter. Two roses with fast fill valves of conical design. Handle missing. Retailers plate 'Dicksons & Co, Waterloo Place, Edinburgh'. Both of the barrel ends have a collar and it has a stuffing box.

Dicksons' Nursery Business, Upton

Dicksons Seed Warehouse Upton. Operating 1841 to 1933. They had a shop in Chester.

Above :- [390] Brass syringe. Plate reads "DICKSONS SEED WAREHOUSE CHESTER". Barrel length 18 inches and diameter 1⅜ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel piston. Spray nozzle with a fast fill valve which is incomplete. Remains of two holders on the barrel. Air vent in barrel end cap. Both ends of the barrel have a collar and it has a stuffing box.

Above :- [561] Brass syringe. Barrel length 18 inches and diameter 1½ inches. Plate reads "DICKSONS SEED WAREHOUSE CHESTER". Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel piston ½ inch in length. Rose nozzle with a central fast fill valve controlled by a ⅜ inch ball. Air vent in barrel end cap. Both ends of the barrel have a collar and it has a stuffing box.

Retailers

Samuel Finney & Co

Mosley Street and Hanover Square, Newcastle-on-Tyne. From 1845 to 1966.

Above :- [889] {4}. Brass syringe. Barrel length 16 inches and diameter ⅞ inch. Hollow brass piston rod $^{5}/_{16}$ inch in diameter. Piston with back-to-back leather cup washers. Integrated fast-fill valve. Retailer's plate on barrel.

Left :- Plate. This reads FINNEY'S SEED MERCHANT GARDEN SYRINGE NEWCASTLE ON TYNE.

Left :- The nozzle with fast-fill component left. This is not fixed in place.

Left :- The fast fill component with the spray plug removed.

Retailers

G & T Fowler

35 Great Dover Street, Borough Street, London and North Street, Brighton. Advertising activity confined to 1869. Fowler's Garden Insecticide. Hopwash, Tobacco Powder. The insecticide was advertised as being used at Windsor and Buckingham Palace.

Above :- [501] Brass syringe. Barrel length 18 inches and diameter 1¾ inches. Cotton reel piston ¾ inch in length. Rose nozzle with central fast fill valve controlled by a ball. Missing a nozzle and holder. Hollow brass piston rod ½ inch in diameter. Both ends of the barrel have a collar.

J W Garner Ltd

In 1947 16-18 Cumberland Street, Sheffield 1.

Benns 1947.

David Green & Son Ltd

Albert Street, Lytham. Lytham St Annes, Lancashire.

Hardware, rubber and Government stores merchants, office and warehouse. Known to be a supplier of barrel/bucket pumps. There is a logo on a brass pump in corrugated galvanised bucket. Incorporated 1934 and around in 1943 (Catalogue). In liquidation 1985.

Retailers

Thomas Gunn Ltd

3 Fore Street, London C2

They appear to be a retailer operating around the mid 1920s. Probably an ironmonger. The EVEREST syringe by Allen & Freeman is illustrated. The pressure sprayer may be ABOL.

Retailers

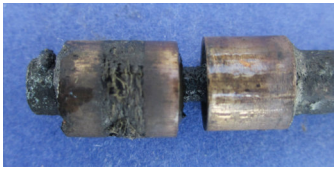
Harrods Limited

Brompton Road, London SW. Catalogues of around 1900 to 1910 has two pages on sprayers and hoses etc. The 1912 catalogue contains similar sprayers. The manufacturers are not shown for all items, but there are sprayers made by Benton & Stone Ltd, E A White Ltd (ABOL), G & W Purser Ltd and Thos McKenzie & Sons (Dublin).

Heppell & Co.

The Laboratories 2 Eden Street London NW1

Chemists operating in 1914 until at least 1918. They had a number of shops throughout London. Handheld fly sprayer.



Above :- [471] Heppells Sprayer. Barrel length 12 inches with a diameter of $^{7}/_{16}$ inch. Container 4 inches at maximum diameter. Spray nozzle. There is a front valve which is not accessible but believed to be a ball valve. The piston valve from the above sprayer.is of the sliding valve type. The centre of the sliding part (left) is bound with cotton to provide a seal.

E G Hughes

Victoria Street Manchester.

Chemists operating in 1915. Manufacturer of the illustrated sprayer is unknown.

Retailers

Mack & Miln Ltd

9 Houndgate, Darlington. Thomas Erskine Miln and John McConnnel trading at Mack & Miln Seedsmen and Nurserymen John McConnel left business in 1911. Liquidated 1928. Known from a syringe which bears a plate with their name.

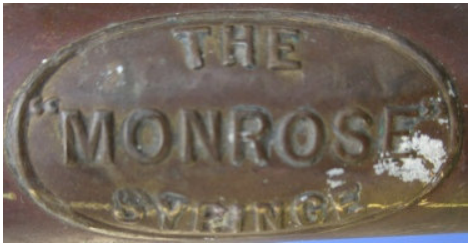
Retailers

Above :- [499] Mack & Miln syringe barrel length 18 inches and diameter 1½ inches. There is a short pipe from the air vent. Hollow brass piston rod ⅞ inch in diameter. Cotton reel piston ½ inch in length. Jet nozzle and rose nozzle. Holder on barrel for an additional nozzle which was probably another rose. Both ends of the barrel have a collar.

George Monro & Son.

4 Tavistock Street, Covent Garden.

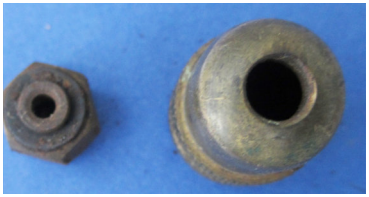
In 1899 George Monro & Sons established the first Horticultural Sundries division at their Tavistock Street Fruit, Flower and Vegetable wholesaling premises at Covent Garden. In 1922 the Directors of Geo Monro Ltd. were E G Monro, Bert. J Monro, Chas Cole, Geo Monro, .A J Monro, J Stuart Monro. In 1940 Geo. Monro Ltd at Waltham Cross, Herts, Supplier of garden syringes badged with their name. Some features of their syringes are similar to those manufactured by Smith & Davis Ltd, so they may be the manufacturer.



Above ;- [533] {2} The font on the sprayer plate is the same as on [470]. I am assuming that MONROSE is a play on MONRO and ROSE. Barrel length 18 inches and diameter ⅞ inch. Drip preventer 6 inches long. Rose with another missing nozzle. Piston rod hollow brass ⅞ inch in diameter with a back-to-back leather cup washer piston.

Retailers

Above :- [910] {4} Monrose brass syringe. Barrel length 18 inches with a diameter of 1 inch. Purser type drip preventer 6 inches long. Rose and spray nozzles. The spray nozzle has a separate fast-fill valve controlled by a ball held in with a screw-in bar. Holder on drip preventer for nozzle not in use. Hollow brass piston rod ⅝ inch in diameter. Back-to-back leather cup washers. Wooden handle.



Above :- [470] {2} Barrel length 16 inches and diameter ⅞ inches. Removable nozzle and bend. Brass piston rod ¼ inch in diameter. Back-to-back leather cup washer piston. Nozzle is a spray with integrated fast fill valve. Also pictured is the nozzle with the stud forming the fast fill valve/spray plug.

Retailers

Moore and Company

Ships medical suppliers. 27 and 28 Greenchurch London EC3. Known from a DronWal small pneumatic with their plate.

Dick Radyclyffe & Co

128-129, High Holborn, London.

Aquaria, conservatories, window boxes, garden tools, plants and ferns. Mentioned in a book called “Art the Handmaid of Nature” 1871. Also, in the London Gazette 18 December 1877.

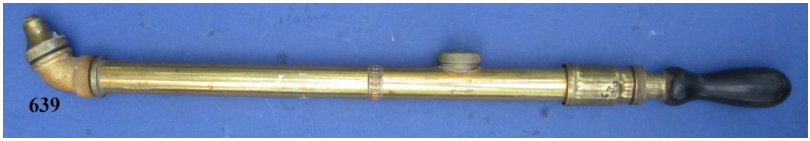
Above :- [509] {4} Brass syringe. Manufacturer’s plate. Barrel length 18 inches with a diameter of 1½ inches. Fixed rose nozzle. Hollow brass piston rod ⅜ inch in diameter. Cotton reel type piston ⅝ inch long.

Redcliffe

This is known from plates on two syringes. One of which looks like it was made by Ernest Hill. I suspect that REDCLIFFE is the name of a retailer as I cannot find any other source which would fit. However, this may not be correct.

Above :- [651] {2} Brass syringe sprayer. REDCLIFFE plate on barrel. Barrel length 20 inches with a diameter of 1 inch. Purser type drip preventing sleeve 8 inches long. Rose nozzle. Remains of a holder on the barrel for a second nozzle which was probably a jet. Hollow brass piston rod ⅜ inch in diameter. Back-to-back

Retailers



Above :- [639] {3} Brass syringe sprayer. REDCLIFFE plate on barrel. Barrel length 16 inches with a diameter of 1 inch. Short drip preventer 1 inches long. Spray nozzle with an integrated fast fill valve controlled by a cone. Probably an Ernest Hill syringe badged for a retailer. Rose nozzle and holder on barrel for nozzle not in use. Remains of holder on the barrel for a second nozzle which was probably a jet. Hollow brass piston rod $^{5}/_{16}$ inch in diameter. Back-to-back leather cup washer piston.

Sutton and Son

Suttons Seeds is a long established supplier of seeds, bulbs, and other horticultural products. Originally in Reading then in 1976 in Torquay and then Paignton in 1998. Syringes were widely used in the business in the 1950s and 1960s. The syringes shown below were on sale in the Reading shop in the Market Square and available by mail order from the Reading Head Office.

Above :- [421] {3} Brass syringe with Sutton & Son Reading plate. Barrel length 16 inches long with a diameter of $1^{5}/_{16}$ inches. It has short pipe from the air vent. Rose nozzle and jet nozzle with one missing nozzle. Holders on barrel for nozzles not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ inch in length. The barrel has collars on both ends.

Above :- [332] {2} Brass syringe with Sutton & Son Reading plate. Barrel length 16 inches long with a diameter of $1^{5}/_{16}$ inches. It has short pipe from the air vent. Rose nozzle and with two missing nozzle. Holders on barrel for nozzles not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ inch in length. The barrel has collars on both ends.

Retailers

William Henry Clayton Thurman

St Peter's Parish, Dorchester. Ironmongers, operating late 1890 to early 1960s. W R Skyrme, bought the business in 1898, but continued to trade under the Thurman name.

Known for a Benton and Stone sprayer (similar to 495) badged with 'W.H.C.THURMAN DORCHESTER' .

L C Tordoff and Sons

6 Southgate, Halifax.

Ironmongers opened on Monday 12 February 1923. Advertised variously as ironmongers, mill furnishers and tool dealers. Mentioned in various newspaper advertisements from 1923 to 1931.

4

Above :- [565] {4} Plate with details. Actual maker unknown. Brass barrel length 16 inches and diameter ⅞ inch. Has collars both ends. Purser type drip preventer 6 inches in long. Bend and spray nozzle. Spray nozzle has a separate fast fill valve controlled by a ball. Piston rod is hollow brass ⅜ inch in diameter. Piston appears have only a single forward facing leather cup washer backed by a metal washer. The barrel has collars on both ends.

William Whiteley

Queens Road, London. Universal Providers. Founded 1863 and sold in 1927. In their 1913 catalogue they have two page out of several hundred devoted to sprayers. This includes Abol, Enots and Four Oaks sprayers plus others without a manufacturer.

Retailers

1913 Catalogue

Retailers

W H Willcox & Co Ltd

Southwark Street, London SE. Works in Castle Street.

Established 1876 and dissolved 1986 (125 years and 7 months).

Retailer and manufacturer who sold their own brand sprayers and also Four Oaks and Purser Sprayers (1917 Catalogue). Their catalogue lists a wide range of other goods including tools or engineers and agriculturalists.

Details of their 'Lightening' Lime and Colour washer (1917) are shown below. In addition they produced a pump known as the 'Facilis' which was advertised for use as a garden pump and fire extinguisher. Also, a mobile sprayer with a tank known as the Willcox Manual Fire Engine and Irrigator.

Right :- Walter Henry Willcox (c1852-1923). Photograph copyright Grace's Guide to British Industrial History.

Retailers

W. H. WILLCOX & CO., LIMITED

"LIGHTNING" LIME AND COLOUR WASHER

Sprays limewash satisfactorily at a speed of 10 square yards per minute with single nozzle and 20 yards with double nozzle. It will also perfectly spray prepared whiting, distemper, calsomine and cold water. Made of the best materials, and of strong design to stand rough usage. The pumps are simple and easily removable for repairs. The spraying nozzles, which is an important feature, can be regulated to any degree of fineness. The patent filter prevents clogging. The whole can be cleaned and replaced immediately.

Fitted with 5-feet Pole and Single Pattern Spraying Nozzle.

Size No., ...	4	4 A	6	6 A
Capacity of Tank,	8	8	6	5 galls.
Length of Armoured Hose,	15	15	10	8 ft.
Prices, ...	165/	180/	135/	105/
Gauge, ...	Included	Included	7/6	—

No. 7 is a small pattern to be used with an ordinary pail, 75/. 30-in. pole with 6 ft. of hose. Wooden base.

No. 4 Without wheels. No. 4 A. With wheels.
No. 6 With removable pail and folding platform.
No. 6 A. With removable pail and strong wooden base.
The No. 4 and 4 A. are most useful sizes for general purposes.
No. 6 A. and 7 are cheaper efficient machines where price is a consideration.

Patent Double Spraying Nozzle.

No. 5 A.—A powerful Machine with Tank and strong Lever Pump, with 5-ft. Pole, Double Spraying Nozzle, and 20 ft. of Special Hose. The speed obtained with this Machine is almost double that with the single nozzle. Capacity, 12 gallons. Mounted on Wheels, 225/

The above is recommended where a large quantity of work is to be done.

SPECIAL BAMBOO POLES. 8 ft. long, without nozzle and valve, Price, 10/

IMPROVED LIMEWASH, in the form of a powder, ready for mixing with water. In barrels containing 1 or 3 cwts. Quickly mixed and superior to ordinary limewash slaked with water.

Prices on application.

"FOUR OAKS" LIMEWASHING AND SPRAYING MACHINES

Powerful brass pumps which cannot clog, with brass ball valves.

These Machines are all sent out with 2 nozzles for limewashing, tree spraying, disinfecting, and washing down.

The "Warwick."

The "FARMER," with Pail, ... 39/6

„ "DAIRYMAN," with 6-gall. Galvd. Tank and 6 ft. Hose, 57/6

„ "WARWICK," with 6-gall. Tank, 6 ft. Hose, Strainer, 4 ft. Brass Rod, will reach 12 ft., ... 59/6

„ "WISBECH," with 6-gall. Tank, 6 ft. Hose, strong undentable Pump (for two persons to work), ... 65/

„ "ROYAL," with 6-gall. Oak Container with strong bands, complete with 6½ ft. Bamboo Lance, ... 78/6

„ "SOMERSET," superior pattern, with 10-gall. Oak Container, with powerful Lever Type Pump (removable), and Agitator; complete with 12 ft. of Hose, Brass Tube &c., ... 135/

The "BRIDGWATER," Garden Engine style, on wheels, 197/6 This high-class Machine consists of a 12-gallon galvanized tank with powerful gun-metal lever pump, agitator, 15 feet of 3-ply best quality armoured hose, brass tube with tap, special spraying nozzle for limewash, also nozzle for fruit tree spraying, and a plain jet for washing with water, strainer, &c.

The "Royal."

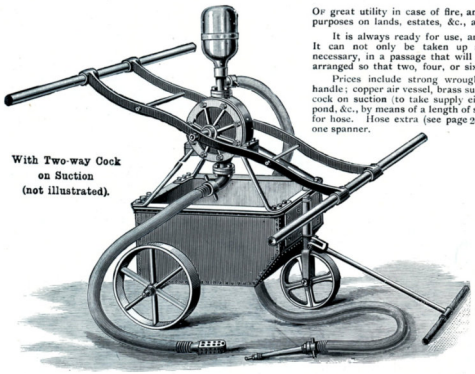
Retailers

W. H. WILLCOX & CO., LIMITED

WILLCOX'S MANUAL FIRE ENGINE AND IRRIGATOR,

FITTED WITH

QUADRUPLE-ACTING SEMI-ROTARY WING PUMP.



With Two-way Cock on Suction (not illustrated).

Of great utility in case of fire, and also specially suitable for general irrigation purposes on lands, estates, &c., and for pumping clear liquid sewage.

It is always ready for use, and is quickly wheeled to the scene of a fire. It can not only be taken up narrow court-ways, but can be worked, if necessary, in a passage that will only allow of the width of the engine. It is arranged so that two, four, or six men can work it.

Prices include strong wrought-iron tank mounted on wheels, with drag handle; copper air vessel, brass suction rose with basket cover strainer, two-way cock on suction (to take supply either from tank below or from a neighbouring pond, &c., by means of a length of suction hose), brass suction and delivery unions for hose. Hose extra (see page 263), also brass hand pipe with two nozzles and one spanner.

Nos. of Pump,	6	7	8	9	
Extreme Width over Wheels,	34½	36½	37½	38½	ins.
Size of Tank,	28 × 24 × 12	33 × 26 × 12	35 × 27 × 12	37 × 28 × 12	,,
Size of Connections—Suction, ...	2	2	2	2½	,,
Delivery, ...	1½	2	2	2½	,,
* Capacity per Minute,	30	37	48	66	galls.
Weight, ...	340	405	495	565	lbs.
Price, Pump in Iron with Brass Valves, Steel Spindle,	£21	£23 10/	£25 10/	£28	
Price, Pump in Brass, Steel Spindle, ...	£27	£31	£35	£39 10/	

* The capacities are based on 6 feet vertical delivery, working full stroke at full speed.

The Nos. 6 to 8 sizes have a somewhat lighter arrangement of handles than shown in illustration (which indicates No. 9 size), but if desired these smaller sizes can be fitted as illustrated at an extra cost of 35/.

GENERAL HINTS AND INSTRUCTIONS.

In selecting a Pump for any particular purpose first take into consideration the kind of liquid to be dealt with, the height of suction and delivery, and the diameter of any existing pipes. Then, if the Pump has to be worked by hand, bear in mind that the greater the **vertical** suction and delivery the smaller must be the Pump, because large Pumps, delivering to a considerable height, naturally entail a greater amount of labour, whilst on the other hand, where the **vertical** distance is small the Pump may consequently be much larger. If working by power select a larger Pump than may be actually necessary, and run at a moderate speed.

No Pump should be fixed higher than 23 to 25 feet above the surface of the liquid. Where the liquid is boiling it must flow to the Pump, it cannot be raised by suction, and an All Brass Pump should be used.

A Foot or Retaining Valve is necessary where the suction exceeds 4 feet vertically. Foot Valves should be fixed fully 6 inches above the bottom of the well, pond, river, &c., to avoid picking up mud, &c. An intermediate retaining valve is an advantage where the suction pipe is a long length **horizontally**; a suction air vessel (Fig. 2) is also recommended (fixed directly under Pump) where there is a long length of horizontal suction.

If sandy or gritty water has to be pumped, our Fig. 3A Combined Foot Valve and Sand Strainer should always be adopted.

Either Figs. 1, 2 or 2A Air Vessels should be fixed on Pumps, on the delivery side, where the liquid has to be forced to some height, or where there is a long horizontal delivery, or in the case of power Pumps running at high speed, or where used for spraying purposes, such as in gardens, &c., as these enable a continuous flow of water of equal pressure to be obtained.

Thoroughly cleanse all new pipes before connecting to Pump. See that all joints are air-tight. As far as possible suction pipes should rise vertically to the Pump, not at an angle; avoid rectangular bends or elbows, and never use suction pipes of a smaller diameter than the Pump connections.

When fixing the Pumps, see that they are bolted up to an even surface, and not too tightly.

PROTECTION FROM FROST.—Brass Pumps are advisable where fixed in exposed positions. In all cases Pumps may be protected by means of a wooden box or casing placed over them and filled with turf or other insulating material, simply allowing the spindle and handle to project outside.

Where Pumps are not so covered they must be emptied after use; unscrew plug in face-plate and make a few strokes with the handle, causing the water to flow out. An anti-freezing cock should also be placed beneath Pump in the suction pipe which should be opened when handle is worked.

We recommend pipes to be placed about 2 feet underground to protect them from bursting by frost.

REPAIRS.—As a general rule our Pumps can be repaired after they have been in use for years, either by local engineers or if sent up to our works.

All new parts can be supplied. These parts are made "full," and require to be properly fitted and adjusted. State if for Double or Quadruple-acting Pump when ordering.

When sending old Pumps for repair, forward ALL the parts and advise us of despatch, stating any trouble or details of special duty, &c.

Do not take Pump to pieces unless absolutely necessary, then remove face-plate carefully—do not prise open with a sharp instrument. Clean out all grit, rust, or other accumulation, grease the working parts, see that joint ring is in its proper place in groove of face-plate, and bolt on the latter evenly, not too tightly, but just so that the wing inside moves freely to and fro. See that gland nut on spindle is properly packed with gaskin. Do not use red lead on joints of face-plate.

Always examine Foot Valves to see that they are working "free" and not choked up.

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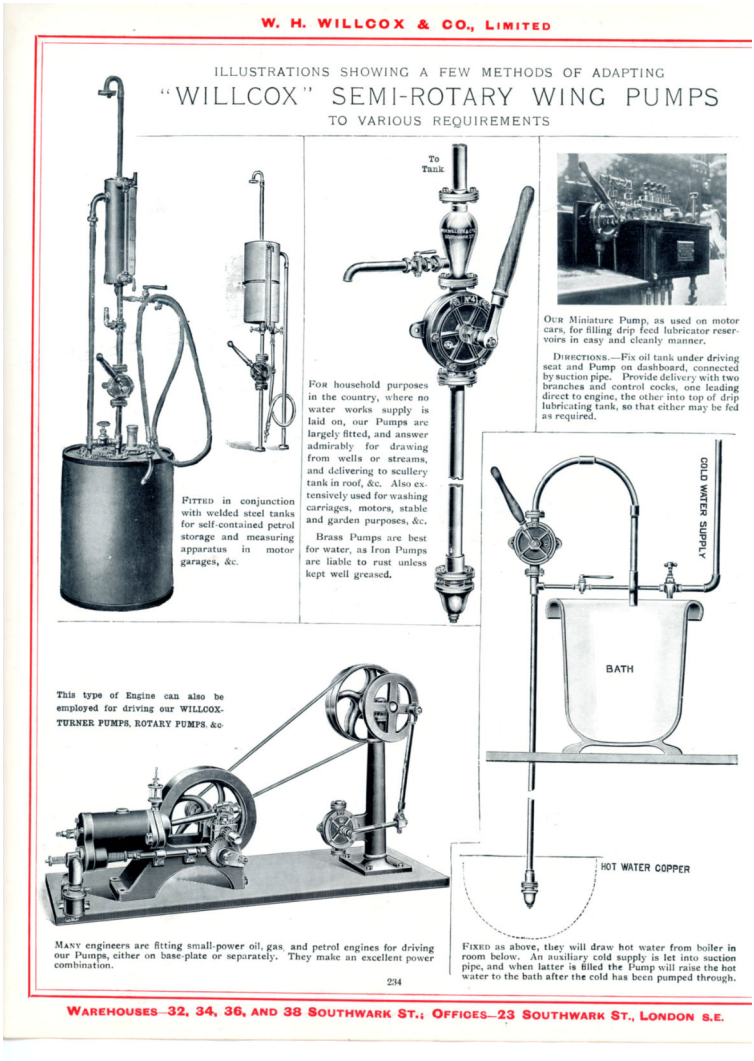
WAREHOUSES—32, 34, 36, AND 38 SOUTHWARK ST.; OFFICES—23 SOUTHWARK ST., LONDON, S.E.

Above :- 1917 Catalogue. This fire engine/irrigator is based on a semi rotary pump.

Retailers



W. H. WILLCOX & CO., LIMITED

ILLUSTRATIONS SHOWING A FEW METHODS OF ADAPTING

"WILLCOX" SEMI-ROTARY WING PUMPS

TO VARIOUS REQUIREMENTS

FITTED in conjunction with welded steel tanks for self-contained petrol storage and measuring apparatus in motor garages, &c.

To Tank

FOR household purposes in the country, where no water works supply is laid on, our Pumps are largely fitted, and answer admirably for drawing from wells or streams, and delivering to scullery tank in roof, &c. Also extensively used for washing carriages, motors, stable and garden purposes, &c.

Brass Pumps are best for water, as Iron Pumps are liable to rust unless kept well greased.

OUR Miniature Pump, as used on motor cars, for filling drip feed lubricator reservoirs in easy and cleanly manner.

DIRECTIONS.—Fix oil tank under driving seat and Pump on dashboard, connected by suction pipe. Provide delivery with two branches and control cocks, one leading direct to engine, the other into top of drip lubricating tank, so that either may be fed as required.

COLD WATER SUPPLY

BATH

HOT WATER COPPER

This type of Engine can also be employed for driving our WILLCOX-TURNER PUMPS, ROTARY PUMPS, &c.

MANY engineers are fitting small-power oil, gas, and petrol engines for driving our Pumps, either on base-plate or separately. They make an excellent power combination.

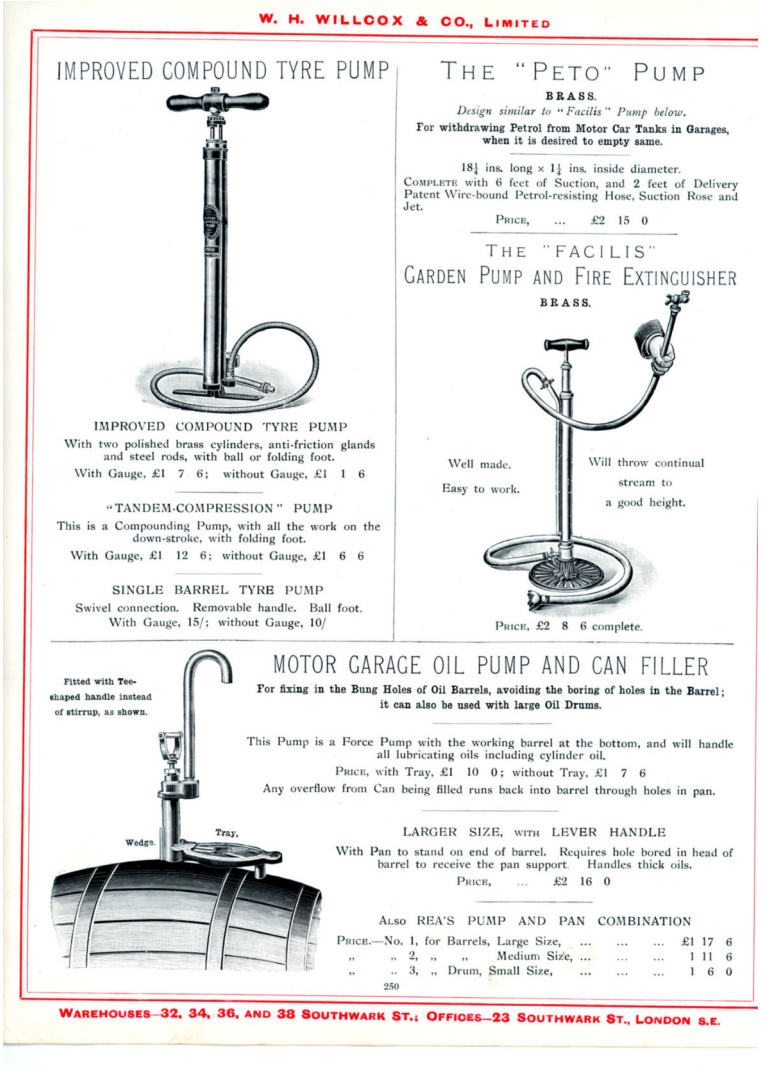
FIXED as above, they will draw hot water from boiler in room below. An auxiliary cold supply is let into suction pipe, and when latter is filled the Pump will raise the hot water to the bath after the cold has been pumped through.

234

WAREHOUSES—32, 34, 36, AND 38 SOUTHWARK ST.; OFFICES—23 SOUTHWARK ST., LONDON S.E.

Above :- 1917 Catalogue.

Retailers



W. H. WILLCOX & CO., LIMITED

IMPROVED COMPOUND TYRE PUMP

IMPROVED COMPOUND TYRE PUMP

With two polished brass cylinders, anti-friction glands and steel rods, with ball or folding foot.

With Gauge, £1 7 6; without Gauge, £1 1 6

"TANDEM-COMPRESSION" PUMP

This is a Compounding Pump, with all the work on the down-stroke, with folding foot.

With Gauge, £1 12 6; without Gauge, £1 6 6

SINGLE BARREL TYRE PUMP

Swivel connection. Removable handle. Ball foot.

With Gauge, 15/; without Gauge, 10/

THE "PETO" PUMP

BRASS.

Design similar to "Facilis" Pump below.

For withdrawing Petrol from Motor Car Tanks in Garages, when it is desired to empty same.

18½ ins. long × 1¼ ins. inside diameter.

COMPLETE with 6 feet of Suction, and 2 feet of Delivery Patent Wire-bound Petrol-resisting Hose, Suction Rose and Jet.

PRICE, ... £2 15 0

THE "FACILIS" GARDEN PUMP AND FIRE EXTINGUISHER

BRASS.

Well made.

Easy to work.

Will throw continual stream to a good height.

PRICE, £2 8 6 complete.

Fitted with Tee-shaped handle instead of stirrup, as shown.

Wedge.

Tray.

MOTOR GARAGE OIL PUMP AND CAN FILLER

For fixing in the Bung Holes of Oil Barrels, avoiding the boring of holes in the Barrel; it can also be used with large Oil Drums.

This Pump is a Force Pump with the working barrel at the bottom, and will handle all lubricating oils including cylinder oil.

PRICE, with Tray, £1 10 0; without Tray, £1 7 6

Any overflow from Can being filled runs back into barrel through holes in pan.

LARGER SIZE, WITH LEVER HANDLE

With Pan to stand on end of barrel. Requires hole bored in head of barrel to receive the pan support. Handles thick oils.

PRICE, ... £2 16 0

ALSO REA'S PUMP AND PAN COMBINATION

PRICE.—No. 1, for Barrels, Large Size, ... £1 17 6

" " 2, " " Medium Size, ... 1 11 6

" " 3, " Drum, Small Size, ... 1 6 0

250

WAREHOUSES—32, 34, 36, AND 38 SOUTHWARK ST.; OFFICES—23 SOUTHWARK ST., LONDON S.E.

Above :- 1917 Advertisement. The FACILIS garden pump plus other pumps outside the scope of this publication.

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Chapter 51

Sundry Manufacturers

Sundry Manufacturers

This chapter covers the smaller manufacturers that do not merit a dedicated chapter, along with several larger agricultural firms whose output was primarily motorised sprayers, which fall outside the scope of this publication.

Ados Ltd

In 1948 at 83 Upper Richmond Road, London, SW15. Telephone Putney 4821. Cables: "Esolabs, London".

A listed exhibitor at the 1947 British Industries Fair. Manufacturers of "Pynoda", "Essanol" and "Tardis" atmospheric disinfectants and spraying apparatus for offices, factories, cinemas and theatres. "Pyno-Dis" Telephone Cream. “Roxem C" and “Roxem T.C.Y." insecticides for extermination of flying and crawling pests.

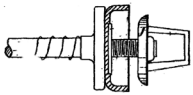
The sprayer appears to be similar to those used by Germstroyd Products Ltd. Possibly made by Benton & Stone.

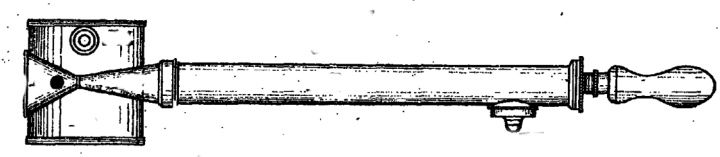
Above :- [821] Ados vaporiser. Barrel length 6 inches with a diameter of 1⅝ inches. Capacity ¼ of a pint. Nickel-plated barrel with a nickel-plated brass piston rod $^{5}/_{16}$ inch in diameter. A version about 12 inches long is also known.

Allcock Brothers Ltd

24 King Edwards Road, Birmingham.

Thomas Allcock trading as Allcock Bros Brassfounders has a patent (GB190221110A dated 20 August 1903) for a special piston which can be adjusted to ensure that it provides a good seal. The sprayer is based on the venturi effect where air is forced over the top of a tube.





Sundry Manufacturers

E Allman & Company Ltd

Birdham Road, Chichester, West Sussex PO20 7BT.

Originally a motor engineer. From 1946 and continuing as a manufacturer of sprayers until 2015. They manufactured motorised sprayers.

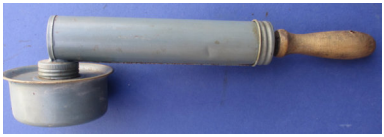
H E Appleby & Co Ltd - Brand name APPLE-BEE

229 Brearley Street, Hockley, Birmingham 19. The limited company was formed around 1939 but was operating before this . (*The Broadcaster, Electrical & Wireless Retailer 1939*). The

Sundry Manufacturers

company was formally wound up in December 1974 with no debts (*London Gazette*). It was a light engineering firm with capacity for steel, brass and aluminium pressing (*Birmingham Mail 17 April 1944)*. The roof of the Brearley Street factory was damaged by fire in November 1955 *(Birmingham Daily Post - 8 Nov 1955*).

The business was started by Henry Edward Appleby (1893-1949). When he died his wife Dorothy Kimble Appleby (maiden name Hall 1893-1970) ran the business. She spoke for the company following the 1955 fire. It may have ceased to trade when Dorothy died in 1970 before being officially wound up a few years later.



Above :- [989] {5} Tinplate sprayer. Barrel length 7 inches with a diameter of 1½ inches. The air pump has a forward facing leather cup-washer on a solid steel piston rod. There is a spring on the piston rod. Container depth 1¼ inches with a diameter of 3 inches. Capacity around one third of a pint. Uses the venturi effect.

Left : Advertisement from Benn's Encyclopaedia of Hardware 1947.

Sundry Manufacturers

Baxendale and Co Ltd (Baxendales)

Founded in 1863 in Salford by Laban Baxendale and Alfred Innes. Moved to Miller Street (Shudehille Mill) in 1892. They became a private limited company in 1911. By 1914 they employed 1,250 workers and operated across a range of trades. They were lead manufacturers, brass founders, furniture manufacturers, electrical manufacturers, glass bevellers and silverers, embossers and lead light workers, sanitary, gas, water, steam and electric fittings, hardware merchants, oil and paint warehousemen, plumbers', decorators' and builders' merchants etc. They may have manufactured sprayers but also bought them in. Some sprayers were sold under the Beanco Brand. Possibly derived from B.&Co. Operating from late 1800's but seems to have stopped manufacturing sprayers after WW 1.

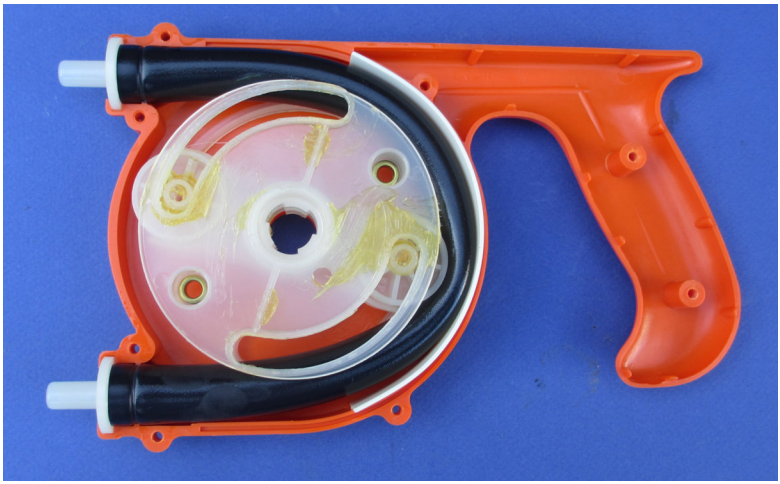
Sundry Manufacturers

Black and Decker

Under its original name the Black & Decker Manufacturing Company, Black & Decker Corporation was founded in September 1910 when S. Duncan Black and Alonzo G. Decker joined forces to set up a machine shop in a rented warehouse in Baltimore, Maryland. The “Jack Rabbit Hand Pump” was introduced around 1979. The main period of promotion appears to have been in the 1980s. It is a hand operated self-priming pump capable of pumping up to two gallons a minute. Advertised as being multi use including spraying.

Above :- [899] Black and Decker A9050. Hand pump and sprayer. This pump is later than most included in this publication and was made in Taiwan. It has been included because it is an iconic sprayer/pump with an unusual mechanism.

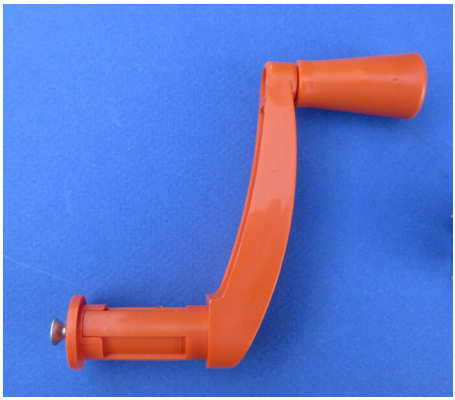
Sundry Manufacturers



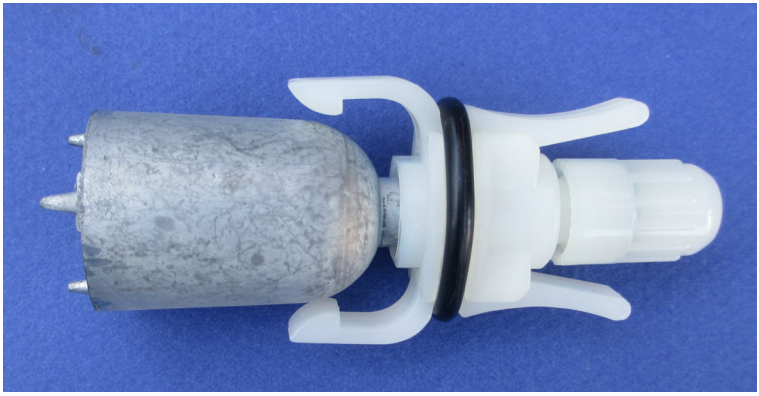
Above :- Inside of the pump showing the flexible tube which is compressed as the handle is turned. There is no contact between the liquid being pumped and the mechanism.

Above :- Warning on the reverse side of the pump.

Right :- The handle. Note that this pump has never been assembled or used.



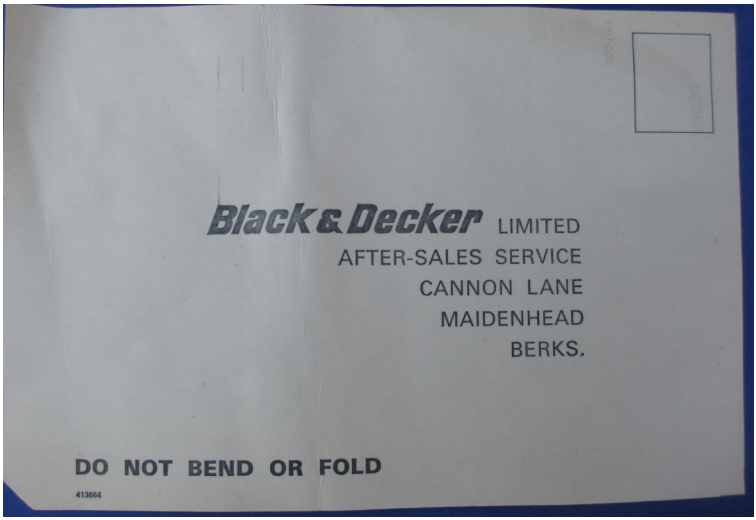
Sundry Manufacturers

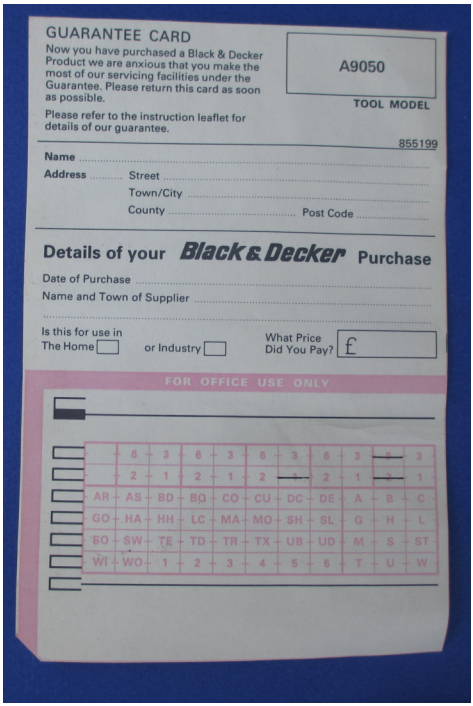


Above :- Left is the filter and right the spray nozzle. Shown as in the original packaging before assembly.

Above :- The various hoses. Black is the inlet hose. The clear plastic hose at the top is the output hose and the thin hose is for oil changes.

Sundry Manufacturers





Sundry Manufacturers

IMPORTANT

THIS DOCUMENT CONTAINS INFORMATION ON THE SERVICE FACILITIES OFFERED FOR YOUR BLACK & DECKER PRODUCT
RETAIN FOR FUTURE USE

THE *Black & Decker* GUARANTEE

If a Black & Decker product becomes defective due to faulty materials or workmanship during the twelve months following purchase, we guarantee to repair it free of charge, provided that:

1. The Product has not been mis-used.
2. Repairs have not been attempted by persons other than our own Service Staff or the Staff of our authorised Distributors Overseas.

THIS GUARANTEE IS OFFERED AS AN EXTRA BENEFIT AND IS ADDITIONAL TO CONSUMERS STATUTORY RIGHTS.

WHAT TO DO IF YOUR BLACK & DECKER PRODUCT REQUIRES SERVICE:

For a fast, efficient, guaranteed repair,* either take your Product direct to a Black & Decker Service Centre or post it to a Black & Decker Service Centre or one of our Central Repair Units giving details of what is wrong and whether a guarantee repair is claimed.

*For some products we provide a new exchange unit rather than a repair. Please enquire if you wish to know whether this applies to your product.

BLACK & DECKER OFFERS YOU "SERVICE SECOND TO NONE" THROUGH OUR UNITED KINGDOM SERVICE CENTRES AND CENTRAL REPAIR UNITS.

You can call at these centres for Product Services, Spare Parts, Accessories and Attachments. Whether you call or write, you will receive efficient, courteous service, advice on Product and use, and a full answer backed up by We offer prompt, guaranteed repairs and generous Product Exchange schemes.

IF YOU CANNOT REACH A BLACK & DECKER SERVICE CENTRE, PRODUCT FOR SERVICE SHOULD BE MAILED TO ONE OF OUR CENTRAL REPAIR UNITS, AT LEEDS OR MAIDENHEAD (*ADDRESSES SHOWN BELOW).

ALTERNATIVELY, IF YOU MAY LIVE NEAR A NOMINATED COLLECTION CENTRE WHO WILL COLLECT YOUR BLACK & DECKER TOOLS FOR GUARANTEE TRANSMISSION TO OUR REPAIR UNITS. CONTACT YOUR NEAREST SERVICE CENTRE FOR THIS INFORMATION.

BLACK & DECKER SERVICE CENTRES:

Belfast, Clarewell Road, Glengormley, Newton Abbey, Co. Antrim. Tel: 02313 41071.
Birmingham, Long Acre, Birmingham 7. Tel: 021 327 3411.
Bradford, 5 John Street, Bradford. Tel: 0274 29327.
Bristol, 21/27 Stokes Croft, Bristol 1. Tel: 0272 422418.
Cardiff, 175 Cowbridge Road East, Canton, Cardiff. Tel: 0222 21547.
Edinburgh, 24 Bonnington Ferry Street, Edinburgh. Tel: 031 226 7479.
Glasgow, 100/107 Glenlarge Road, Bellrone Industrial Estate, Glasgow N2. Tel: 041 336 9697.
Hull, 91/92 Prospect Street, Hull. Tel: 0482 223561.
*Leeds, 1 Lockwood Close, Middleton. Tel: 0532 714019.
Leicester, 42 Abbey Street, Leicester. Tel: 0533 21981.
Liverpool, 1 Brunswick Business Park, Liverpool. Tel: 051 220 3636.
London North, 623 Holloway Road, London N19. Tel: 01 272 9246.
London South, 30 The High Parade, Streatham High Road, London SW16. Tel: 01 677 2164.
London East, 1 Brooks Parade, Green Lane, Goodmayes, Essex. Tel: 01 590 5859.
London West, Bath Road, Harmondsworth, Middlesex. Tel: 01 759 2411.
Luton, 45 New Bedford Road, Luton. Tel: 0582 20565.
Manchester, Simpson Mill, Manchester. Tel: 061 834 8865.
Maidenhead, Cannon Lane, Maidenhead, Berkshire. Tel: 0628 82 2232.
Newcastle, 3 Broadway Parade, Primer Road, Newcastle. Tel: 091 863 8251.
North Harrow, 8 Broadway Parade, Harrow. Tel: 01-863 1626.
Norwich, 28 Prince of Wales Road, Norwich. Tel: 0603 615200.
Nottingham, 38 Lower Parliament Street, Nottingham. Tel: 0602 873012.
Plymouth, 65/67 Exeter Street, Plymouth. Tel: 0752 21064.
Sheffield, 451 London Road, Sheffield. Tel: 0742 760743.
Southampton, 117a East Street, Southampton. Tel: 0703 23915.
Stanmore, Green Lane, Stanmore, Co. Durham. Tel: 0388 816815.
Tyneside, Bergin Close, Tyne Tunnel Trading Estate, Percy Main, North Shields. Tel: 089 45 76117.

If you have any queries or problems about After-Sales Service, contact our central Service and Information Centre at Maidenhead or Littlewick Green (0753 0628 8821 or Telex 847801).

YOU'RE ALWAYS NO. 1 WITH *Black & Decker* SERVICE.

Form. No. 855205

Black & Decker
A 9050 HAND PUMP AND SPRAYER INSTRUCTIONS FOR USE

Read carefully before using pump

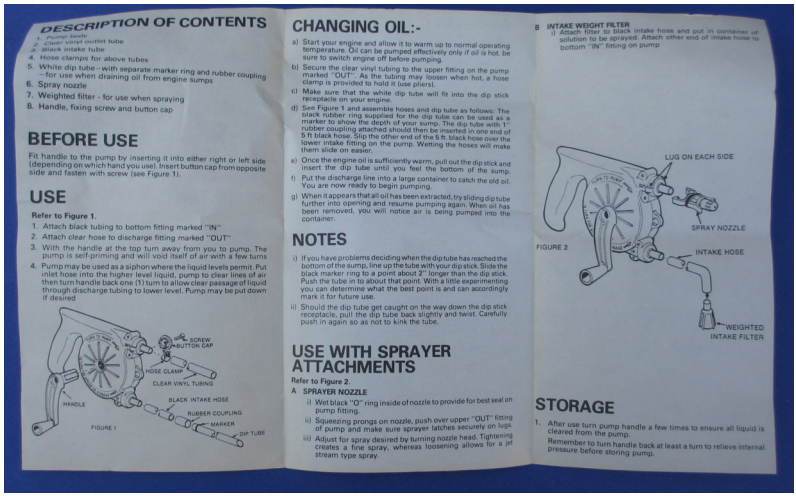
IMPORTANT

DO

- **Always** after each use be sure to turn the handle back at least 1 full turn to relieve pressure on internal rollers. Failure to do so could put a permanent kink in the inner tubing which will impair future operation.
- Follow manufacturer's instructions when using spray solutions. Many solutions can be harmful if breathed, ingested or left on the skin and many have a corrosive effect on paint finishes, etc.
- **Always** ensure pump is empty after use. Liquid, especially petrol, left in pump could create dangerous fumes or possibly damage tubing over a period of time.
- Periodically clean pump by pumping hot water (not boiling) and detergent through it.
- Store out of reach of children
- Take care not to pump liquids which will corrode neoprene rubber (e.g. chlorinated hydro carbons, acids, creosote etc)

DON'T

- Pump flammable liquids in enclosed or very hot areas or close to open flames. Do not smoke or allow others to smoke whilst pumping flammable liquids
- Use pump at temperatures below 32° / 0°C
- Allow children or pets near you when spraying or pumping
- Use pump on vehicles with petrol tanks fitted with anti-siphoning devices
- Work near electricity cables, sockets, etc. when spraying or pumping.
- Use paint, etc., in pump - it will clog tubes, nozzle, etc. pump can be used for water, hot oil, petrol and many other liquids



DESCRIPTION OF CONTENTS

1. Pump body
2. Clear vinyl outlet tube
3. Black intake tube
4. Hose clamps for above tubes
5. White dip tube – with separate marker ring and rubber coupling – for use when draining oil from engine sumps
6. Spray nozzle
7. Weighted filter - for use when spraying
8. Handle, fixing screw and button cap

BEFORE USE

Fit handle to the pump by inserting it into either right or left side (depending on which hand you use). Insert button cap from opposite side and fasten with screw (see Figure 1).

USE

Refer to Figure 1.

1. Attach black tubing to bottom fitting marked "IN"
2. Attach clear hose to discharge fitting marked "OUT"
3. With the handle at the top turn away from you to pump. The pump is self-priming and will void itself of air with a few turns
4. Pump may be used as a siphon where the liquid levels permit. Put inlet hose into the higher level liquid, pump to clear lines of air then turn handle back one (1) turn to allow clear passage of liquid through discharge tubing to lower level. Pump may be put down if desired

FIGURE 1

CHANGING OIL:-

a) Start your engine and allow it to warm up to normal operating temperature. Oil can be pumped effectively only if oil is hot, be sure to switch engine off before pumping.

b) Secure the clear vinyl tubing to the upper fitting on the pump marked "OUT". As the tubing may loosen when hot, a hose clamp is provided to hold it (use pliers).

c) Make sure that the white dip tube will fit into the dip stick receptacle on your engine.

d) See Figure 1 and assemble hoses and dip tube as follows: The black rubber ring supplied for the dip tube can be used as a marker to show the depth of your sump. The dip tube with 1" rubber coupling attached should then be inserted in one end of 5 ft black hose. Slip the other end of the 5 ft. black hose over the lower intake fitting on the pump. Wetting the hoses will make them slide on easier.

e) Once the engine oil is sufficiently warm, pull out the dip stick and insert the dip tube until you feel the bottom of the sump.

f) Put the discharge line into a large container to catch the old oil. You are now ready to begin pumping.

g) When it appears that all oil has been extracted, try sliding dip tube further into opening and resume pumping again. When oil has been removed, you will notice air is being pumped into the container.

NOTES

i) If you have problems deciding when the dip tube has reached the bottom of the sump, line up the tube with your dip stick. Slide the black marker ring to a point about 2" longer than the dip stick. Push the tube in to about that point. With a little experimenting you can determine what the best point is and can accordingly mark it for future use.

ii) Should the dip tube get caught on the way down the dip stick receptacle, pull the dip tube back slightly and twist. Carefully push in again so as not to kink the tube.

USE WITH SPRAYER ATTACHMENTS

Refer to Figure 2.

A SPRAYER NOZZLE

i) Wet black "O" ring inside of nozzle to provide for best seal on pump fitting.

ii) Squeezing prongs on nozzle, push over upper "OUT" fitting of pump and make sure sprayer latches securely on lugs.

iii) Adjust for spray desired by turning nozzle head. Tightening creates a fine spray, whereas loosening allows for a jet stream type spray.

B INTAKE WEIGHT FILTER

i) Attach filter to black intake hose and put in container of solution to be sprayed. Attach other end of intake hose to bottom "IN" fitting on pump

FIGURE 2

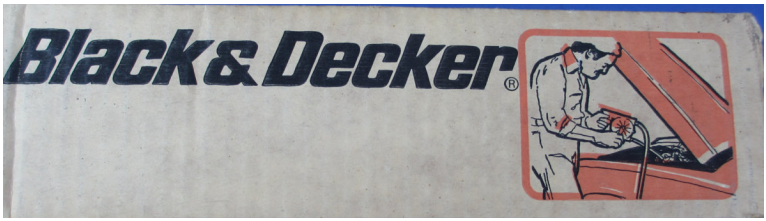
STORAGE

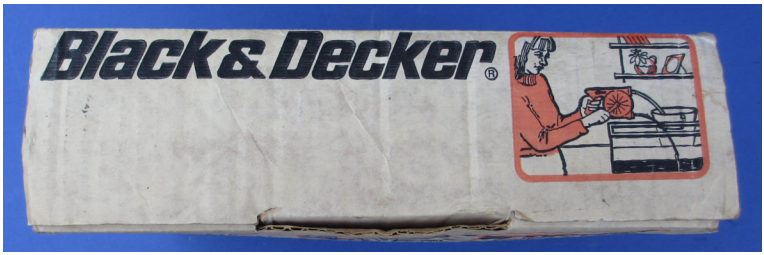
1. After use turn pump handle a few times to ensure all liquid is cleared from the pump.

Remember to turn handle back at least a turn to relieve internal pressure before storing pump.

Sundry Manufacturers

Sundry Manufacturers





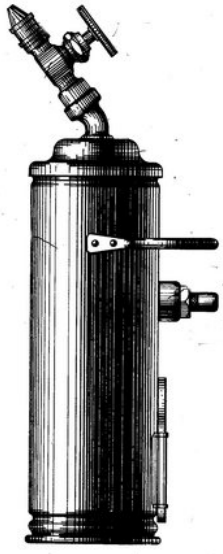
Sundry Manufacturers

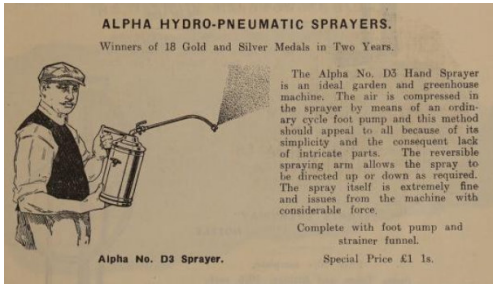
Blake Brothers Ltd

Broad Street, Ross-on Wye, Hereford and other locations in Ross-on-Wye. The firm was founded in 1815 by Mr William Blake. At some point it was taken over by his sons Alfred James Blake and Henry Thomas Blake. A patent GB190724637A by Henry Thomas Blake dated 25 June 1908 seems to have given rise to the manufacturer of a range of sprayers under the ALPHA brand and was the basis for the setting up of Alpha Extinguishers Ltd. Alpha Extinguishers Ltd and Blake Bros Ltd amalgamated on 9 November 1910 (Ross Gazette). The patent is for a pneumatic sprayer which was pressurised using an external bicycle or car tyre pump. These sprayers came in a number of sizes and both horticultural and firefighting uses. There is a mention in 1910 in the ‘Field ‘ of a two-pint ALPHA sprayer being tested by the RHS.

In 1920 William Weeks & Sons were selling an ALPHA sprayer. This looked like a conventional handheld pneumatic sprayer but pressurised by a bicycle pump.

Blake Brothers Ltd was an ironmonger and hardware merchant with a foundry. Sprayers/Fire extinguishers seem to have been a small part of the business for a relatively short time from about 1908 to the early 1920s. Alpha Extinguishers Ltd was wound up on 20 February 1913 (Ross Gazette), but Blake Brothers Ltd continued in various forms until 2018.





Sundry Manufacturers

Dell and Co. Bristol

The name adopted by Isaac Dell in June 1866 when his partnership with Barton Dell was ended. Dell and Co. were general mechanists, makers of lathes, tools, mechanical equipment and suppliers of machinery for small workshops.

.

Above :- [920] {4} Syringe. The barrel length is 8 inches and diameter 1½ inches. Rose nozzle. Stuffing box. DELL & CO BRISTOL. Collars on both ends of barrel. Solid brass piston rod ¼ inch in diameter. Cotton reel piston ½ inch long.

Sundry Manufacturers

Burgess & Oliver

Weald of Kent Works, Horsmonden, Kent. Agriculture and general engineers operating in the mid 1920s.

W A Dawkins & Co

Speedwell Works, Warstone Parade East, Birmingham.

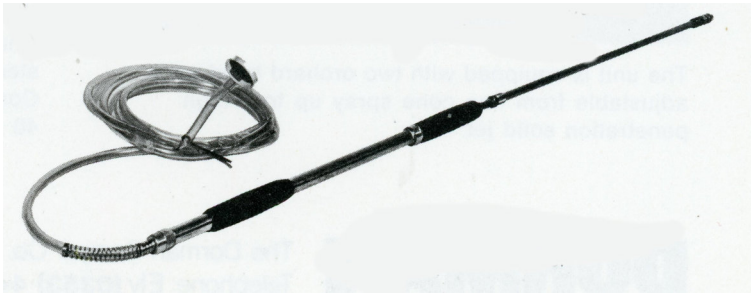
William Arthur Dawkins has a patent (GB189511502A published 21 September 1895) for an adjustable plunger. The advertisement is thought to be from 1894, so there may have been an earlier patent. The company may not have survived much longer after this advertisement as they were selling their syringes at half price.

Sundry Manufacturers

Dorman Simplex Spraying Co Ltd, Later Dorman Sprayer Company Ltd

In 1954 the Dorman Sprayer Company Ltd at 408 Cherry Hinton Road, Cambridge. Manufacturers of agricultural sprayers. In 1963 at Ditton Walk Cambridge. In 1970 Bray Lane Ely. Operating 1940s to 1981. Mainly manufactured larger powered sprayers but also produced smaller ones. Some later models used plastic containers. Taken over by Ransomes who then stopped making sprayers. A new company Team Sprayers Ltd was formed in 1981 employing seven of the original Dorman staff. Team Sprayers Ltd was still operating in Ely in 2024.

Above :- The Osprey Sprayer. Available in 1954. A metal backpack sprayer which was pressurised with a tyre pump or airline. Weight 34 pounds.

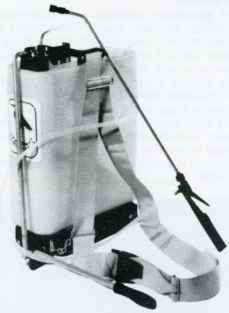


Above :- HAND-SPRAY - A Solo Type sprayer. Part of a range of sprayers with plastic containers made in the 1970s.

Sundry Manufacturers

DORMAN Hand-held and Hand-propelled Sprayers

Range of specialist spraying machines to meet the requirements of the gardener, groundsman, fruit grower, horticulturalist and industrial contractor.

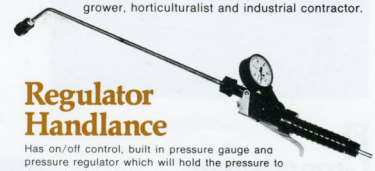


4 gallon (18l) Plastic Piston Knapsack

A light convenient knapsack sprayer for the professional or serious amateur.
Tank 4 gallon, 18 litre Polythene—4 inch charging hole and strainer, anti-splash well in the top. Carrying handle and drain plug.
Harness Woven polypropylene, non absorbent with belt and shoulder straps, gives a comfortable pack.
Pump Lever operated piston. Left or right hand working 25 gal/hr (115 litre/hr) at 30 strokes per minute. 700cc pulsation damper.
Takes simple HL1 handlance, pressure regulated handlance or 10 nozzle tail boom assembly.
Packs 19 × 15 × 6 inches. Weight 11½lb.

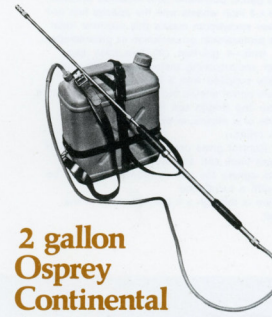
1 gallon Sling Pack

One gallon blow moulded polythene tank with comfortable carrying handle and single non absorbent shoulder sling.
Reciprocating handlance double acting pump (10cc per stroke) with adjustable cone nozzle.



Regulator Handlance

Has on/off control, built in pressure gauge and pressure regulator which will hold the pressure to the set level if a fairly constant pumping rate is maintained. Ideal for more precise working.

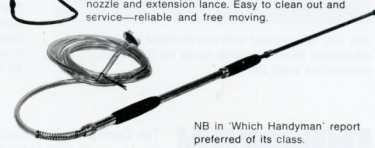


2 gallon Osprey Continental

Blow-moulded polythene tank with smoothed corners for easy washing out. 1¾ inch charging hole, non absorbent carrying harness and hand grip.
Reciprocating handlance double acting pump (20cc per stroke) with adjustable angle cone nozzle.

Hand-Spray

Reciprocating double acting handlance pump with suction hose and strainer adjustable angle cone nozzle and extension lance. Easy to clean out and service—reliable and free moving.



NB in 'Which Handyman' report preferred of its class.

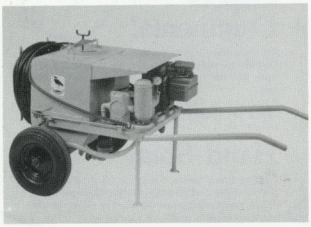
Sundry Manufacturers

Ely Industrial

10 gallon polythene tank mounted on sturdy 14 × 3 inch wheels, the Ely Industrial is adapted for working on pavements, pedestrian precincts, and in awkward places round factory and plant installations.
The sprayboom comprises three independently controlled fan spray nozzles with a centre nozzle giving 3ft cover and each side nozzle giving 18in cover. There is also a separately controlled handlance take off point.
The pump is a 4 gallon (20 litre/min) 2 cylinder reciprocating diaphragm pump powered by a 3 hp 4 stroke Briggs and Stratton engine.
The spray control comprises pressure regulator, on/off and suck back anti drip. Agitation is by the return to the tank of surplus output.
Filtration is through a 3 inch 40 mesh in line strainer.

Ely Groundsman

The 10 gallon polythene tank mounted between two 14 × 3 inch wheels with the special fine turf 7ft cover sprayboom makes this machine ideal for the professional groundsman or greenkeeper.
Pump Unit—4 gal/min (20 litre/min) two cylinder reciprocating piston diaphragm pump.
Normally supplied with a 50cc 1hp 2 stroke Minarelli petrol engine but can be supplied with a 4 stroke 3hp Briggs and Stratton power unit.
Capable of a maximum working pressure of 250psi (18atu).
Spray Control gives pressure regulation, on/off and suck back anti drip. Surplus pump output goes to agitate the tank contents. Can also be used with a handlance.
Filtration is through a 3 inch 40 mesh in-line strainer.



The unit is equipped with two orchard hand guns adjustable from fine cone spray up to a high penetration solid jet.

Orchard Wheelbarrow or Pressure Washing Set

The 22 gallon (100 litre) well balanced wheelbarrow sprayer has a hot dipped galvanised steel tank with 10 inch charging hole and strainer Contents are again strained through a 3inch 40 mesh in-line filter before reaching the pump.

DORMAN The Dorman Sprayer Co. Ltd., Brays Lane, Ely, Cambs. CB7 4QL
Telephone: Ely **(0353) 4444/2833** **Telex (via BLUFF CAMBRIDGE) 817343**

Sundry Manufacturers

R G Dixon & Co Ltd Wembly. Capitol Works, Empire Way, Wembley, Middlesex

In 1952 R G Dixon & Co Ltd formed a marketing organization with Columbus Ltd known as Columbus-Dixon Ltd. Manufacturers of “Dixon” Industrial Floor Scrubbing, Polishing and Carpet Shampooing Machines, Power, Suction Squeegees, Pressure Wax Sprayers, and the “ Columbus ” Suction Floor Polisher which Sweeps, Cleans and Burnishes Simultaneously. The companies have several patents from the 1950s to 1980s for floor cleaning and associated equipment. Operating to 1985. They may have been associated with Electrolux as the address given for their liquidation in June 1985 was Electrolux in Luton.

Left :- [948] {4} Probably designed to apply appropriate cleaning products. Pump barrel is fairly long and external which would have allowed for quick pressurisation and maximum capacity in the container.

Pump barrel length 8 inches with a diameter of 1 inch. Piston rod hollow metal ½ inch in diameter. Piston a single forward facing cup washer. Internal spring on pump rod and outer buffer washer. Spring loaded pump valve. Container height 6 inches with a diameter of 1 inch. Spray nozzle in base of container. Designed to be held in one hand and operated by squeezing the lever. Possibly vertically to allow application of liquid to floors. Pressure release valve.

Left :- The pump valve.

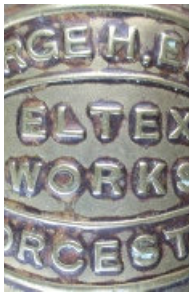
Right :- The spraying valve assembly. Squeezing the lever allows liquid out from the nozzle in the centre of the base.

Below :- The nozzle.

Sundry Manufacturers

George H Elt Ltd

Eltex Works, Bromyard Road, Worcester. Mainly known as a manufacturer of paraffin heaters, but they also made a number of other metal products. In 1993 they became Eltex of Worcester Ltd and ceased trading about 2000. As well as the syringe shown below they sold a pneumatic sprayer similar to the Donald Edwards Pneumatic 300.



Above :- [506] {4} Eltex syringe. The barrel length is 18 inches and diameter 1⅝ inches. Fine and coarse rose nozzles with holder on barrel. Cotton reel piston. Piston rod is a brass tube.

Right :- Eltex greenhouse heater 1970s

Sundry Manufacturers

Esso (Flit)

FLIT is the brand name for an insecticide. The original product, invented by chemist Dr Franklin C Nelson and launched in 1923 was mainly intended for killing flies and mosquitoes. It was a mineral-oil based product manufactured by the Standard Oil Company of New Jersey, later to become Esso. In the late 1940s and early 1950s the Esso version contained 5% DDT. The hand-operated atomizer called a Flit gun was commonly used to perform the spraying.

Above :- [403] {1} Flit Gun. Barrel length 9½ with a diameter of 1½ inches. Solid steel piston rod $^{3}/_{16}$ inch in diameter. Container height 3½ inches and diameter 2½ inches.Barrel end cap is wood.

Left :- Inside of Flit chamber. No air enters from the pump and the sprayer works on the venturi effect whereby air passing over the end of the tube causes liquid to be moved up the tube and to be mixed with the air to give an atomised spray.

Sundry Manufacturers

Above :- [916] {1} Flit Gun. Barrel length 9½ with a diameter of 1½ inches. Solid steel piston rod $^{3}/_{16}$ inch in diameter. Metal container height 2¼ inches with a diameter of 3½ inches. Barrel end caps are wood. Works on venturi effect.

Above :- [917] {1} Flit Gun. Barrel length 9½ with a diameter of 1½ inches. Solid steel piston rod $^{3}/_{16}$ inch in diameter. Metal container height 3½ inches and diameter 2½ inches. Barrel end cap is wood.

Above :- [915] {1} Flit Gun. Barrel length 9½ with a diameter of 1½ inches. Solid steel piston rod $^{3}/_{16}$ inch in diameter. Plastic container height 2½ inches and diameter 3½ inches. Barrel end cap is wood. This is the continuous action version. The container is pressurised by the pump, but some air also passed directly from the pump to the nozzle where it mixes with liquid from the container. See Testar & Swain for details of how this sprayer worked.

Sundry Manufacturers

1960s Advertisement

Joseph Evans & Sons

Colwell Works, Wolverhampton. Makers of pumps from 1810 to 1960. Their products and history are well documented, but they do not appear to have made any sprayers.

Sundry Manufacturers

Evers & Wall Ltd

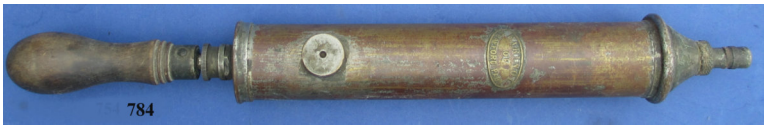
Lowesdon Work, Lambourn Woodlands, Newbury, Berkshire.

Agricultural Sprayers. Operating to at least 1967.

Farinol Company Ltd

Farinol, Sprayer House, Trafford Park, Manchester.

A chemical company operating in 1933 to at least the early 1960s. Noted for the supply of disinfectants to WW II air raid shelters. Various sprayers with their plate are known.



Above :- [784] Farinol vaporiser. Barrel length 9 inches with a diameter of 1⅝ inches. Similar in some respects to the Benton & Stone vaporiser. Plate reads FARINOL OF TRAFFORD PARK.

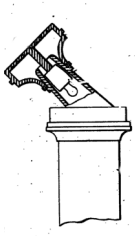
Above :- [912] Farinol hand-held. Air pump barrel length 8 inches with a diameter of 1 inc. Container 2¾ inches in diameter and also in length. Plate reads FARINOL OF TRAFFORD PARK. Forward facing leather cup washer on solid steel piston rod.

Left :- The nozzle which works on the venturi effect.

Foulkes Robinson & Co

Royce William Foulkes and Emile Robinson trading as Foulkes Robinson Co Brassfounders of 17 New Summer Street, Birmingham.

Sundry Manufacturers

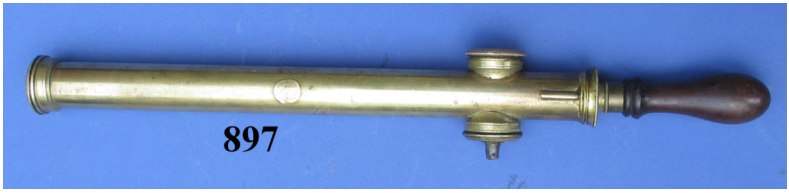


They have a patent GB191215871A (dated 19 June 1913) for an attachment which fits over the jet nozzle to change it to a spray nozzle. The rates books show them working together in 1906 in Earl Street, Birmingham, then in New Summer Street in 1911. In 1913 both were charged with stealing brass ingots, but

Isaac Greaves, Sheffield

ISAAC GREAVES,
PARK WORKS, SHEFFIELD,
MERCHANT, AND MANUFACTURER OF
GARDEN, GRASS, PRUNING, BRUSH, TAILORS', PLATERS',
GOLDSMITHS', TINMEN'S, BOOKBINDERS', SHEEP & HORSE
SHEARS,
EVERY DESCRIPTION OF EDGE TOOLS,
AND ALL KINDS OF HORTICULTURAL IMPLEMENTS.
N.B.—All Shears Manufactured by him are Marked "Gambia."

Park Works, Sheffield. Mainly edge tool maker from 1824 to about 1911. Isaac Greaves was originally in a partnership with Amos Watts which was dissolved in late 1824 (*newspaper article*). In the advertisement of 1847, they are advertising all types of horticultural implements.



Above :- [897] {5} Barrel length 18 inches with a diameter of 1½ inches. Plate reads "ISAAC GREAVES MADE IN SHEFFIELD". Cotton reel type piston on a ⅜ inch hollow brass piston rod. Stuffing box. Two rose and one jet nozzle all with a fast fill valve. In the rose nozzles the whole rose plate moves slightly. On the pull stroke it moves backwards allowing liquid to flow around the plate as well as through the perforations. On the push stroke the plate moves forward so that liquid has to go through the perforations. The jet nozzle works in a similar way.

Sundry Manufacturers

Left :- One of the rose nozzles with the rose plate in the position it would be on the pull stroke, allowing liquid to flow around the plate and through four holes in the rim.

Below :- The inside of the rose nozzle,

Left :- The jet nozzle. The jet protrudes through a front plate. It is backed by a perforated plate. The whole plate moves slightly. On the pull stroke this allows liquid around the jet and through the large holes.

Left :- The piston with packing removed.

Thomas Green & Son Ltd

Smithfield Iron Works, North Street, Leeds and at New Surrey Works, Southwark Street, London SE.

Founded 1835 and sold in 1951.

Known to have manufactured lime sprayers but also made a wide variety of other goods including lawn mowers, traction engines, fences and gates, trams and seed drills.

Sundry Manufacturers

The Hart Agricultural Engineering Co Ltd.

Grosvenor Street, West Birmingham.

Founded before 1890. Ceased trading in 1980s.

All advertisements seen refer to motorised sprayers. They include a motorised knapsack sprayer. They made a wide range of agricultural machines including muck spreaders and elevators.

The Haven Engineering Co

Goudhurst, Kent.

Mentioned as being at Tunbridge Wells Agricultural Show in 1923.

Produced a sprayer and limewashing machine.

Sundry Manufacturers

Samuel Heath & Sons Ltd

Leopold Street, Birmingham. THERMIDOR products.

1854 Company established.

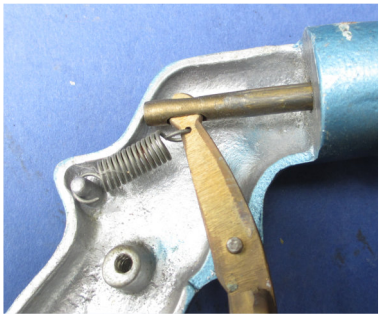
1890 Public company. The company was registered on 9 July, to take over the business of brass founders of the firm of the same name

1914 Brassfounders. Specialities: Bedstead Mounts, Fender Mounts, Coffin Furniture, Art Metal and Lock Furniture, Lamp and Electric Fittings. Employees 1,000.

1937 General brassfounders.

1961 Brassfounders, stampers and finishers.

Sundry Manufacturers



Above :- [799] {4} THERMIDOR pump sprayer. Paper label which reads "BRITISH THERMIDOR MADE". Container height 5 inches with a diameter of 4 inches. Capacity about 1 pint. Brass piston rod. Piston is a rubber 'O' ring. Handle is cast metal. The handle operates an air pump which forces air directly through the nozzle and also into the container where it pressurises the air forcing liquid from the container through a pipe to the nozzle. Here it mixes with the air coming directly from the pump to form an atomised spray.

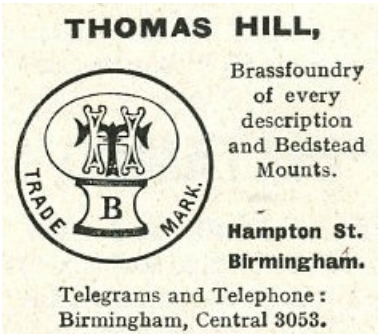
Sundry Manufacturers

Thomas Hill

Hampton Street, Birmingham.

Known only from a 1930 catalogue.

Garden syringes and other brass items including hose fittings and bedstead mounts.



Sundry Manufacturers

Hilming Horticultural Ltd

Anglesey Road and Broadway Street, Burton-on-Trent. New company in the early 1960s. They were in difficulties in 1967 and wound up in 1968. The logo is a green letter ‘h’ in the form of a man. Model 10 was a syringe with a diameter of ⅞ inch and a barrel length of 15 inches. This had a separate fast-fill valve which could be swapped with the spray nozzle to allow spraying straight ahead or at an angle. This is similar to the approach used by G & W Purser. Model 30 was advertised as being ideal for general garden use. It could handle insecticides and creosote, and may be their small pneumatic sprayer. Model 40 appears to have been a self-supplying sprayer as it was advertised a being ‘a must’ for vegetable growers and as having a compression chamber. An 18 inch syringe sprayer was advertised in the Sunday Mirror and Sunday People on 30 April 1967. Models 12, 30, and 40 were later referenced in a further advertisement published in the Evening Sentinel on 9 April 1968.

Below :- Reconstruction of a 1967 advertisement

.

Sundry Manufacturers

Above :- Hilming small pneumatic.

Below :- Notice of liquidation

HILMING HORTICULTURAL LIMITED

Notice is hereby given, in pursuance of section 300 of the Companies Act, 1948, that a Meeting of the Creditors of the above-named Company will be held at the Liquidator's Office, 23 Bridge Street, Burton-on-Trent, Staffs, on Wednesday, the 17th July 1968, at 2.30 o'clock in the afternoon precisely, for the purpose of having an account laid before them, and to receive the Liquidator's report, showing how the winding-up of the Company has been conducted and the property of the Company disposed of, and of hearing any explanation that may be given by the Liquidator.—Dated 10th June 1968.

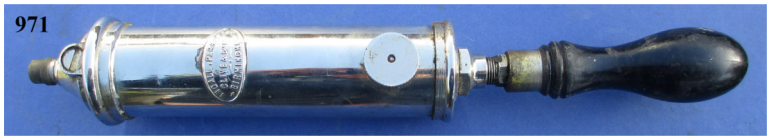
(506) *E. J. M. Bramley*, Liquidator.

Sundry Manufacturers

Ingall, Parsons, Clive & Co Ltd Birmingham Sprayer

Ingall, Parsons, Clive & Co. Ltd of Birmingham were brassfounders and coffin manufacturers and were regarded as the leading funeral supply company in the UK. The business was established in Birmingham in 1888 following the amalgamation of 15 companies in the city. In 1928 the company had 600 emloyees and was the largest firm in the coffin trade. It had branches in most of the larger cities. It was in operation until the early 1980s when it went into liquidation.

The sprayer shown below was probably bought in and given their branding. It was probably sold as part of their funeral supplies for spraying disinfectant or similar. Possibly manufactured by Benton and Stone.



C Jackson & Son

A subsidiary of Warne, Wright and Rowland by 1951. Spanner makers. They made a stirrup pump to government specifications under the CJ brand during WW II.

Sundry Manufacturers

Jeyes Fluid

The Jeyes business was originally founded by John Jeyes who first patented a disinfectant fluid in 1877. Jeyes was granted the Royal Warrant in 1896. The business continues today having been owned by several different companies. The Jeyes Horticultural sprayers dates from around 1910. It was probably developed for spraying Jeyes Fluid but could have been used for any spraying task. Also known are a Jeyes small pneumatic made by Benton & Stone Ltd.

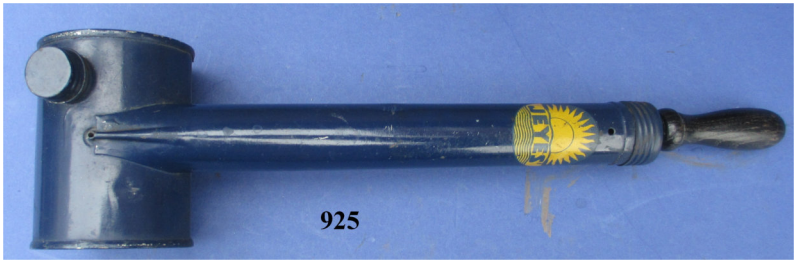
Above :- [789] Jeyes Horticultural Sprayer. Plate on the drip preventing sleeve. It is a single action self supplying sprayer with the input via a hollow piston rod. It is unusual in having the feed coming off at right angles to the barrel and not through the end of the piston rod. Also it is rare for a self supplying sprayer to have a drip preventing sleeve. Barrel length 16 inches and diameter 1 inch. Piston rod is hollow brass ⅜ inch in diameter. Input and front valves are both controlled by a ball. The piston is of the cotton reel type, but it appears have a leather ring rather than being cotton bound. It has a spray nozzle.

Left :- The input valve. This forms part of the hose connector.

Right :- The front valve.

.

Sundry Manufacturers



Above :- Jeyes tinplate sprayer [925] {4}. Barrell length 10 inches and diameter 1¼ inches. Container 3½ inches in diameter. Pump has a single forward facing cup washer with a spring on the piston rod.

Left :- This sprayer works on the venturi effect. Air compresses by the piston in the barrel passes over the end of the tube leading into the container. The drop in pressure that occurs at the top of the tube sucks liquid from the container mixing it with air to give a fine spray.

Sundry Manufacturers

Kent Engineering & Foundry Ltd

Phoenix Works, Tovil, Maidstone Kent.
.
Manufacturers of mainly agricultural equipment from about 1956. They made sprayers, dusters and mist blowing equipment.

About 1956 they manufactured a tractor driven sprayer and mist blower.

In 1961 the site was shared by KEF a maker of loudspeakers who adopted the name from Kent Engineering and Foundry Limited. From a 1963 advertisement looks like Kent Engineering and Foundry Limited still were on site in 1963. They were selling a double action sprayer under the KEF brand. Elsewhere the company is shown as ceasing to trade in 1961 so possibly this is another incarnation of the original company.

H Kirby & Co.

Wolverhampton.

Founded in 1900 and still operating in 1938. Recorded as supplying sprayers. In 1931 are known to have provided dustbins to Wolverhampton Council.

Brand or Model name - WULFRUM

Sundry Manufacturers

Leslie's Sheet Metal Works Ltd

74 Braemar Road London N15.

Benn's Encyclopaedia of Hardware 1947. Advertisements indicate that made insecticide sprayers, powder blowers, potato peelers, bun tins and patty tins. They only dealt with wholesalers and made items to customers' specifications.

William M Marples & Son Ltd

Hibernia Works, Westfield Terrace, Sheffield.

Founded 1828. Sold to Record Tools in 1962. From the outset, they were recognized as a leading manufacturer of high quality hand tools. Closed in the 1960s. They were selling sprayers from 1873 to 1963.

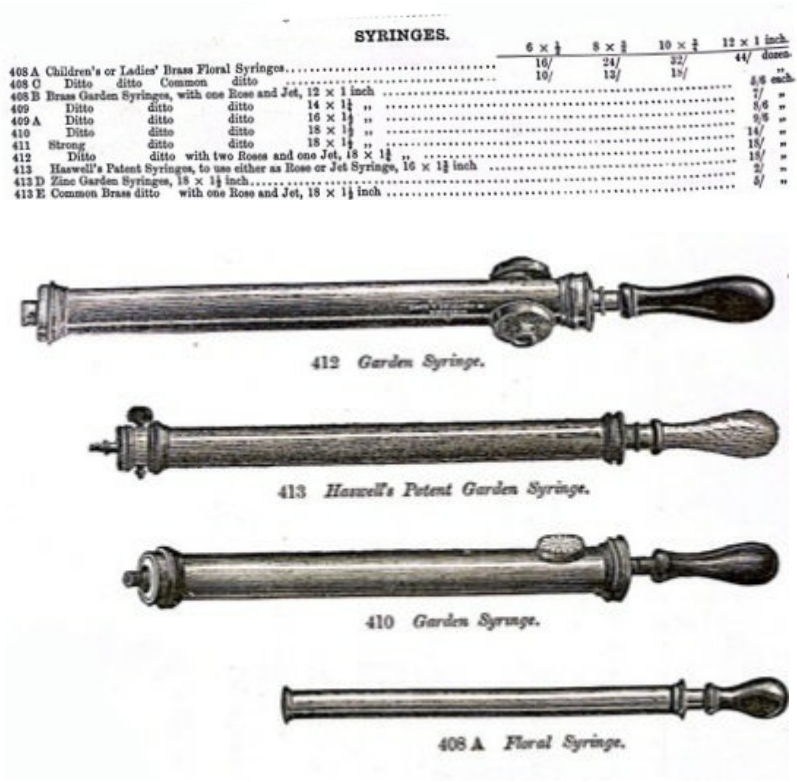
Above :- [446] {4} Brass syringe sprayer with W M MARPLES & SONS engraved on the barrel. Barrel length 16 inches and diameter 1½ inches. Rose and jet nozzles. Hollow brass piston rod ⅜ inch in diameter. Cotton reel piston ½ inch long. Possibly once enhanced with a forward facing leather cup washer. Similar to model 8205 in their 1928 catalogue.

Sundry Manufacturers

GARDEN SYRINGES, &c.

144 Brass Garden Syringes, from 4/3 to 23/ each.
145 Improved Garden Engine, 46/ each.
146 Improved Water Barrow and Engine, complete, 85/ each.

Above :- Extract from 1873 Catalogue.



SYRINGES.

		6 × ¾	8 × ¾	10 × ¾	12 × 1 inch.
408 A	Children's or Ladies' Brass Floral Syringes	16/	24/	32/	44/ dozen.
408 C	Ditto ditto Common ditto	10/	13/	18/	5/6 each.
408 B	Brass Garden Syringes, with one Rose and Jet, 12 × 1 inch				7/ ,,
409	Ditto ditto ditto 14 × 1¼ ,,				8/6 ,,
409 A	Ditto ditto ditto 16 × 1½ ,,				9/6 ,,
410	Ditto ditto ditto 18 × 1½ ,,				14/ ,,
411	Strong ditto ditto 18 × 1½ ,,				15/ ,,
412	Ditto ditto with two Roses and one Jet, 18 × 1½ ,,				18/ ,,
413	Haswell's Patent Syringes, to use either as Rose or Jet Syringe, 16 × 1⅝ inch				2/ ,,
413 D	Zinc Garden Syringes, 18 × 1½ inch				5/ ,,
413 E	Common Brass ditto with one Rose and Jet, 18 × 1½ inch				

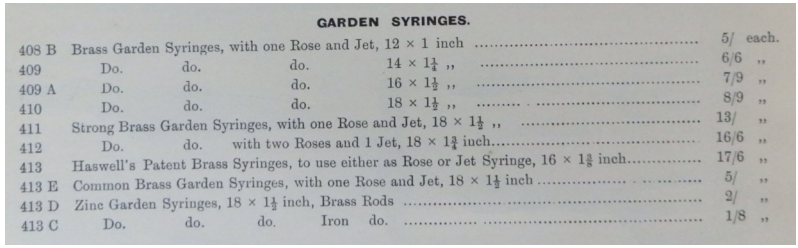
412 *Garden Syringe.*

413 *Haswell's Patent Garden Syringe.*

410 *Garden Syringe.*

408 A *Floral Syringe.*

Above :- Extract from 1888 Catalogue.

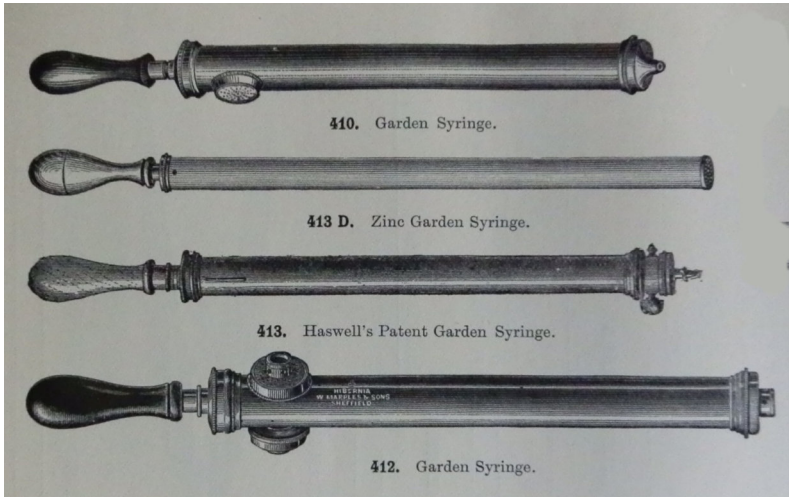


GARDEN SYRINGES.

408 B	Brass Garden Syringes, with one Rose and Jet, 12 × 1 inch	5/ each.
409	Do. do. do. 14 × 1¼ ,,	6/6 ,,
409 A	Do. do. do. 16 × 1½ ,,	7/9 ,,
410	Do. do. do. 18 × 1½ ,,	8/9 ,,
411	Strong Brass Garden Syringes, with one Rose and Jet, 18 × 1½ ,,	13/ ,,
412	Do. do. with two Roses and 1 Jet, 18 × 1¾ inch	16/6 ,,
413	Haswell's Patent Brass Syringes, to use either as Rose or Jet Syringe, 16 × 1⅜ inch	17/6 ,,
413 E	Common Brass Garden Syringes, with one Rose and Jet, 18 × 1½ inch	5/ ,,
413 D	Zinc Garden Syringes, 18 × 1½ inch, Brass Rods	2/ ,,
413 C	Do. do. do. Iron do.	1/8 ,,

Above :- Extract from 1897 Catalogue.

Sundry Manufacturers



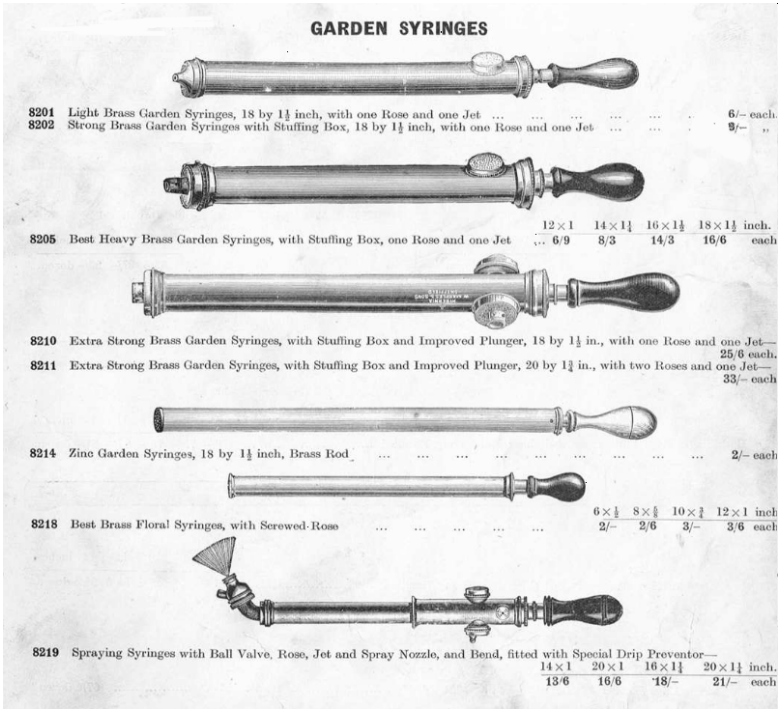
Above :- Extract from 1897 Catalogue.

GARDEN SYRINGES.

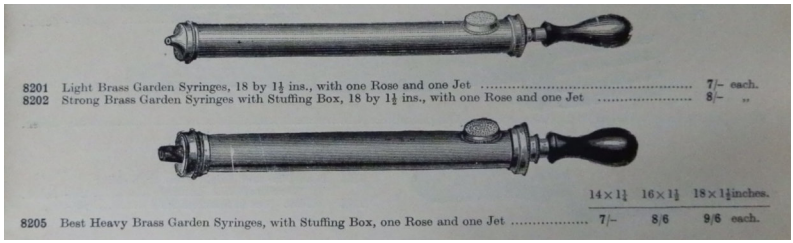
8201	Common Brass Garden Syringes, 18 by 1⅛ inch, one Rose and one Jet				5/	each
8202	Medium ditto ditto 18 by 1½ inch ditto				7/6	,,
8205	Best Brass Garden Syringes, with one Rose and one Jet	12 × 1	14 × 1¼	16 × 1½	18 × 1½	inch
		5/6	7/3	8/6	10/	each
8210	Strong Brass Garden Syringes, 18 by 1¼ inch, with one Rose and one Jet				15/	each
8211	Ditto ditto 18 by 1⅜ inch, with two Roses and one Jet				19/	,,
8212	Haswell's Patent Strong Brass Garden Syringes, 16 by 1⅜ inch, to use either as Rose or Jet				21/	,,
8214	Zinc Garden Syringes, 18 by 1⅛ inch, Brass Rods				2/	,,
8215	Ditto ditto ditto Iron ditto				1/8	,,
		6 × ⅛	8 × ⅝	10 × ¾	12 × 1	inch
8218	Best Brass Floral Syringes	14/6	19/	24/	30/	dozen

Above and right :- Extract from 1909 Catalogue.

Sundry Manufacturers

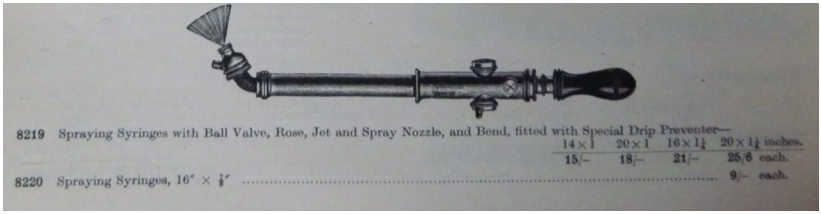


Above :- From 1928 Catalogue. There are six syringes, four of which are also illustrated in the 1909 catalogue. The range had also been extended with more sizes available. The syringe model 8219 appears to be a Mysto (W T French & Son) No. 7 syringe, so it was probably bought in. The same may also be true of the other syringes.



Above :- From 1938 Catalogue.

Sundry Manufacturers

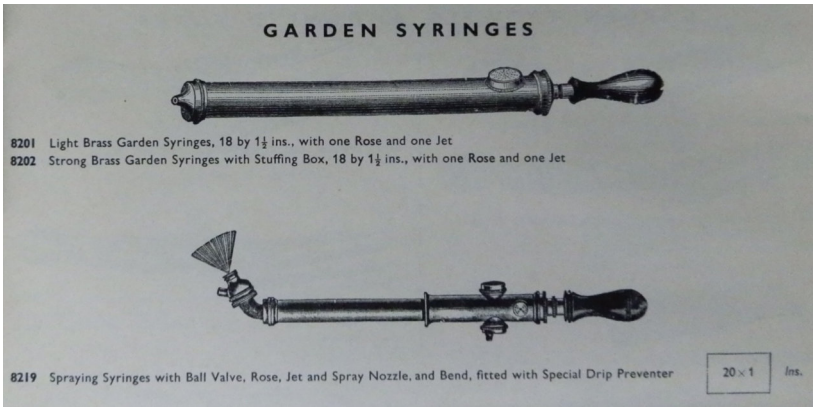


8219 Spraying Syringes with Ball Valve, Rose, Jet and Spray Nozzle, and Bend, fitted with Special Drip Preventer—

14×1	20×1	16×1¼	20×1¼ inches.
15/–	18/–	21/–	25/6 each.

8220 Spraying Syringes, 16″ × ⅞″ ..... 9/– each.

Above :- From 1938 Catalogue.



Above :- From 1959 Catalogue. The syringe model 8219 is still being featured. It appears to be a Mysto (W T French & Son) No. 7 syringe so it was probably bought in.

Micron Sprayers Ltd

Bromyard, Herefordshire.

Founded in 1954 by Edward Bals. In 2018 became part of the Goizper Group, Spain.

Horticultural and agricultural sprayers. Known to have a powered powder blower. Mentioned in the Illustrated Sporting and Dramatic News - Wednesday 04 December 1963 and in other newspapers thereafter.

Sundry Manufacturers

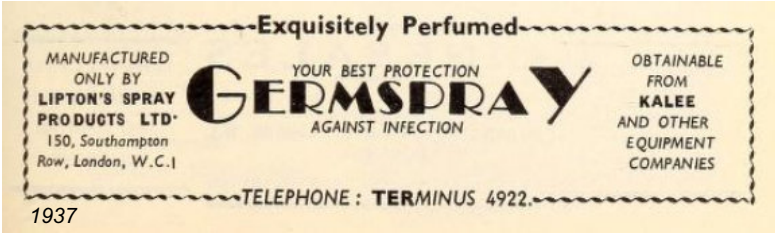
New Hygiene Ltd

The company was started in the 1930s by Leslie Lipton of 27 Wren Avenue, Cricklewood, London, NW and operated under the name Lipton's Germicide Products Company. In 1935 this became Lipton's Spray Products Ltd, Southampton Row, London WC1. In 1936 they were selling a product called GERMSPRAY and were advertising a chromium plated hand held pneumatic vaporiser for use with GERMSPRAY. The company name was changed to New Hygiene Ltd in 1937. By 1950 they had moved to 266-268 Holloway Road London W1. They were manufacturers of chemicals and dealers in vaporising equipment. In 1959 they were trading under the name of Scentinal Products with a chromium plated sprayers advertised for cinema use. This cost £3.00 but was free with the first order of the product.

The company was dissolved in 2022 but appears not to have been manufacturing for many years.

Sundry Manufacturers

Above :- [901] {4} New Hygiene small pneumatic sprayer. Almost definitely made by Philip B Waldron & Co Ltd. Apart from the badge is is identical to Model 5P/T MASTER small pneumatic. Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The valve is of the disc type. Solid steel piston rod ¼ in diameter. Lever controlled spray nozzle.



1937

Sundry Manufacturers

Newton, Chambers Co Ltd (IZAL and ZALDECIDE)

The company started in 1793 but the IZAl disinfectant wasn't introduced until the 1890s. This was made from distilled coal tar. The name became well known for its use on a best-selling "medicated toilet paper" often found in schools and public lavatories, noted for its abrasive quality. According to the radio documentary 'Now Wash Your Hands', the reason for its ubiquity was because local authorities were given it as part of a bulk-purchasing agreement when ordering disinfectant. ZALDECIDE was a new product around 1935, and advertised as being especially effective against bed bugs. In 1968 Jeyes Fluid acquired Izal household products. A large pneumatic "THE IZAL TROLLEY SPRAYER" is also known.

Above :- [863] IZAL sprayer. Plate reads "UNIVERSAL IZAL SPRAYER". This appears is a self supplying sprayer. The metal grip on the barrel is similar to that found on some Benton & Stone Ltd sprayers, so it is possible that the sprayer was made by them. Barrel length 12 inches with a diameter of 1 inch. Spray and jet nozzle. It would have originally been supplied with a hose. There is a front ball valve. The brass ¼ ball is held in with a screw. It has a solid brass piston rod $^{5}/_{16}$ inch in diameter. The piston and the piston valve are missing. An IZAL sprayer was advertised in 1914 and in 1928 one was advertised as being available from Newton & Chambers & Co for £2.2.0.

Left :- The plate.

Right :- The nozzle. The screw which holds in the ball for the front valve is shown left.

Sundry Manufacturers

Left :- [882] {4} ZALDECIDE household insecticide sprayer. This appears to be a Monitor Engineering and Oil Appliances Ltd sprayer specially made for ZALDECIDE.

Working capacity 1½ pints. Container height 6 inches with a diameter of 4 inches. Air pump barrel length 5 inches with a diameter of ⅞ inch. The barrel end cap on the air pump is made of wood, and would have been held in place with two small screws. The valve is incomplete but appears to be external. Painted steel container. Chromium plated lever controlled mechanism with a spray nozzle.

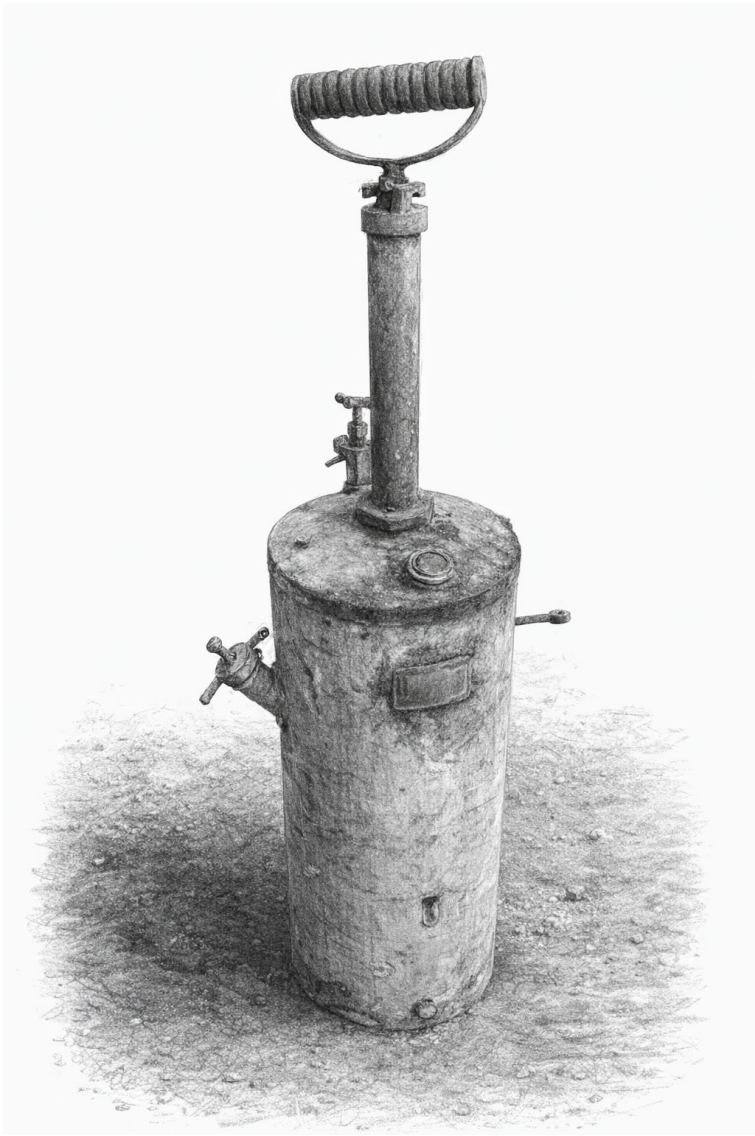
A later type MYSTO No. 6 with a gold finish is known with a ZALDECIDE decal.

Left :- The top of the sprayer.

Right :- This sprayer is also badged ZALDECIDE, and is based on the other type of Monitor sprayer (see [270] in Monitor Engineering and Oil Appliances Ltd).

Sundry Manufacturers

Below :- Drawing of Izal Pneumatic



Sundry Manufacturers

Samuel Nye & Co

Founded about 1850. First address known is 79 Wardour Street, London. They were still there in 1861 when they won an award for their mincing machine. In 1869 they were using the Wardour Street address and also an address at 373 Oxford Street, London. By 1900 their address was Berwick House, 139 Oxford Street, London. There is a record for a 1912 patent for improvements to a knife cleaning machine, and a mention in a newspaper article on 3 August 1918 of the company being at St Georges Road, Camberwell. There are entries in the London phone books for 1905 to 1911 at the 139 Oxford Street address. A limited company of the same name appears in the London phone books from 1945 until 1979. The company is shown as kitchen equipment manufacturers and suppliers, but I do not know if it has any relationship with the original company.

They made appliances such as pasta machines, sausage machines, coffee mills, mincers and garden syringes. Syringes were not a major part of their business.

Samuel Nye has a number of early patents including in 1852 (Number 464) for a sausage making and mincing machine, and in 1857 (Number 1815) for improvements to a coffee grinder.

Above :- [157] {4} Brass syringe with manufacturer's plate. Barrel length 18 inches and diameter 1½ inches. Purser type drip preventor 7 inches long. Rose nozzle, but missing another nozzle which was probably a jet. Piston rod of hollow brass ⅜ inch in diameter. Cotton reel piston.

Sundry Manufacturers

Osman & Co

132 and 134 Commercial St, Whitechapel London. Post Office directory 1902. Manufacturer of all horticultural sundries.

Above :- [467] {2} Plate with OSMAN & CO MANUFACTURERS OF ALL HORTICULTURAL SUNDRIES COMMERCIAL ST LONDON. Barrel length 16 inches and diameter 1¼ inches Jet Nozzle and two rose nozzles. Holder on barrel for nozzles not in use. Hollow brass piston rod ⅜ inch in diameter. Cotton reel type piston ⅜ inch long.

Above :- [348] {3} Barrel length 16 inches and diameter 1½ inches. Removable nozzle. Missing additional nozzle. The handle, piston rod and piston are not original.

Above :- [847] {2} Brass syringe sprayer. Barrel length 19 inches with a diameter of 1¾ inches. two rose nozzles and one jet nozzle. Hollow brass piston rod $^{9}/_{16}$ inch in diameter. Cotton reel type piston ⅝ inch in length. There are collars on both ends of the barrel and it has a stuffing box. Plate in poor condition but reads the same as the above.

Sundry Manufacturers

Parker-Hale Ltd

Bisley Works, Whittall Street, Birmingham 4. Mainly known as rifle maker and gun accessories the company is believed to have manufactured syringes and knapsack sprayers for a short time between 1880 and 1936.

W R R Pedley & Co Ltd

Associated with Regent Manufacturing Co, and Remanco (Toys) Ltd. Dimminsdale, Willenhall, Staffordshire England. 1893 to 1963 and continuing after this in various forms. Mainly known for tinplate toys which included a water pistol, a mangle and a lawnmower.

Above :- [945] {4} REMANCO syringe. Solid construction which is probably painted brass. Barrel length 8 inches with a diameter of 1 inch. Solid steel piston rod. Spray nozzle marked PATENT PENDING but patent not traced.

Sundry Manufacturers

Pest Control Ltd

Harston, Cambridge. This company appears to have mainly been involved in agricultural spraying. The exception to this is the Bambi Ideal Sprayer. Believed to have been in production in the early 1950s.

Above :- {280] {2} Bambi Ideal Sprayer. This came with a glass bottle. The inlet valve was in the bottle and not in the sprayer. It is a single action sprayer which sprays only on the push stroke. There is a simple sliding valve on the piston with a ball valve. Barrel length 14 inches and diameter ½ inch. Spray nozzle. Solid brass piston rod ¼ in diameter.

Albert Phillips Ltd.

Birmingham. Albert Phillips Ltd seem to have been a bedstead manufacturer, who made stirrup pumps in WWII (1940). ‘

Left :- [455] {3} Stirrup pump made to government specifications. A number of manufacturers made these.

Sundry Manufacturers

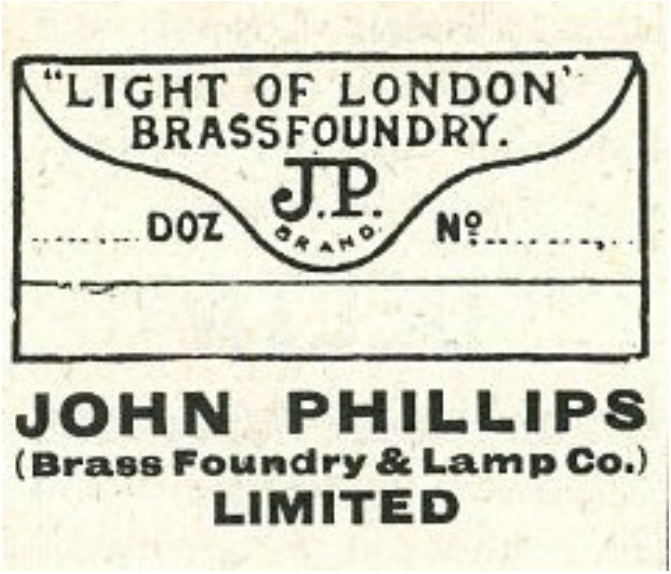
John Phillips (Brass Foundary & Lamp Co) Ltd

61 Farringdon Road, London EC1

Active in 1938. as Lights of London, Brassfoundry.

Made stirrup pumps in WW II. They also may have made the self supplying sprayer shown below. The logo on the plate looks very similar to that in the advertisement.

Above :- [588] {4} Single action self supplying syringe with JP on a plate on the barrel. Allocated to John Phillips based on the logo. Barrel length 12 inches with a diameter of 1 inch. Spray and jet nozzles on a 5 inch lance. The front valve is not accessible but believed to be a ball valve. The piston is a solid ¼ brass. It has a ball valve held in with a bar. The piston is a forward facing cup washer. Cellulite grip with reg number 469643. Missing hose and strainer.



Sundry Manufacturers

Potter & Moore Ltd

Lavender House, Seymour Road, Leyton, London, E10.
Telephone: Leytonstone 3334. Cables: "Narcissus, London".

John Potter was born in 1688, and William Moore a few years later. Both were descendants of well-known Mitcham families.

In 1749 they became associated and founded the business of Potter and Moore. They were known at that time as physic gardeners which included the cultivation of herbs and flowers. Lavender was their speciality.

John and William took their knowledge and expertise in working with natural ingredients and applied it to creating fine bath, body and beauty products as well as other household products. When James Moore Died in 1851 the business went to James Bridger, James Moore's illegitimate son. Who ran the business very successfully until his death in 1885 when the business was bought by W.J.Bush. In 1968 Bush's company merged with two other companies to form Bush Boake Allen, the world's largest supplier of flavours and perfumes. In 1968 the Potter & Moore section of the business was sold to E.C. De Witt & Co Ltd, part of the De Witt International Organization. Potter and Moore, relocated to Cambridgeshire and are still producing a wide range of quality health and beauty products.

Above : - Tinplate sprayer designed for POMP moth proofer. The link between POMP moth proofer and Potter and Moore Ltd is based on an entry in the Pharmaceutical Journal Volume 133 in 1961. The cap on the container is a replacement not correct for the sprayer. Container length 3½ inches with a diameter of 3 inches. Pump barrel length 8 inches with a diameter of 1¼ inches. Pump with leather cup washer and spring on piston rod. Works on the venturi effect.

Sundry Manufacturers

Practolin Products Co

5 Heath Street, London NW3.
Supplier of a DDT and Pyrethrum powdered insecticide in a cardboard puffer container.

Above :- [577] {2} Cardboard puffer 8 inches high.

Presto Gear Case and Component Co Ltd

Located on Frederick Street Wolverhampton, best known for the manufacture of cycle gear cases. The business was trading in 1893 under the name Sharratt & Lisle before its incorporation as Presto Gear Case and Component Co. Ltd in 1896. In addition to its core cycle−related products, the company advertised a patented pneumatic sprayer in 1902, associated with British Patent GB190115107A (published 29 May 1902). The firm was wound up in 1914, as reported in the Birmingham Daily Post on 2 June 1914.

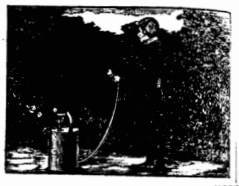
Sundry Manufacturers

PATENT AUTOMATIC SPRAYER.

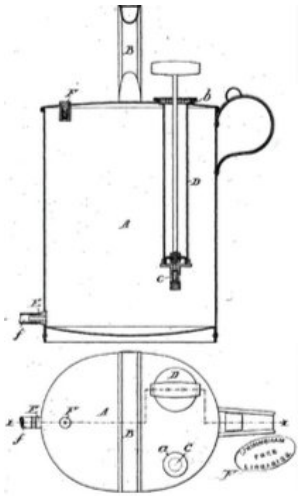
FOR GARDENS, GREENHOUSES, LAWNS, &c., WINDOW WASHING, EXTINGUISHING SMALL FIRES, &c.

Is fitted with Patent Nozzle with Tap to regulate delivery, and changeable to Spray or Jet by the thumb only. Will deliver a jet from 40 feet upwards; and greater distances can be reached by ordering longer hose tube. **TO USE.**—After the vessel is filled and pumped up it may be placed or carried to any position and left there, and will then be ready for use at any time, the person using having merely to carry the nozzle in hand and deliver the liquid to any point selected. Japanned green, or red, with 6 feet Rubber Hose Tube. 4 gallons, **24s.**; 5 gallons, **26s.**; 6 gallons, **28s.** **To be obtained through Ironmongers and others, or direct from the Makers—**

THE
PRESTO GEAR CASE AND
COMPONENTS CO., LD.,
FREDERICK ST,
WOLVERHAMPTON.



(1902)



THE
PRESTO GEAR CASE AND
COMPONENTS CO., LD.,
FREDERICK ST,
WOLVERHAMPTON.

Sundry Manufacturers

Primus.

Known from a plate on a syringe. Probably Primus, Sweden who make Primus stoves.

Above :- [368] {4} PRIMUS ROSE SPRAY. Registered design, but the number cannot be read. Brass barrel length 16 inches with a diameter of 1¼ inches. Solid brass piston rod ¼ inch in diameter. Forward facing cup washer with an another rubber washer. It may be a special configuration as it has a large backing plate. Fitted with a spray nozzle with an integrated fast-fill valve controlled by a cone shaped component

Sundry Manufacturers

Rapid Sprayer Co

39 Fox Hollies Road, Acocks Green, Birmingham. Operating in 1935.

Sprayer manufacturer.

Rentokil

British Ratin was established in 1927 as a pest control company by its Danish owner Sophus Berendsen A/. The company used a bacillus developed by a Danish Scientist George Neumann to control rats and mice. Demand for pest control services began extending beyond rodent control to insect control. British Ratin made its first acquisition, Chelsea Insecticides Ltd in 1940. In 1957 British Ratin acquired Rentokil. The combined businesses continued to use the Rentokil name, becoming Rentokil Laboratories Ltd in 1960. A medium size pneumatic sprayer with a Scientex Ltd plate is known. Scientex Ltd was acquired by Rentokil in the late 1950s.

There is a patent GB651262A by. Rentokil Limited, Norman Ernest Hickin and Elizabeth Eades for a woodworm fluid injector. Applied for 3 Dec 1947 and published 14 March 1951

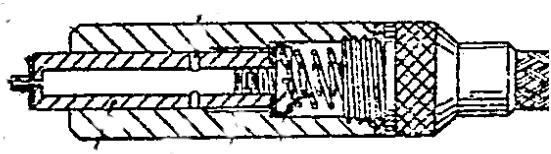
Left :- [515] {2} Rentokil Fetcham sprayer. Container height about 8 inches. Known as the "Fetcham Injector". Missing a flexible nozzle which was probably similar to the one on the W T French & Son sprayer shown below. Over a million had been sold by the late 1950s. Note that the inventor on the patent is Norman HIckin not Norman Hicken as on the Rentokil web site (Jan 2023).

Sundry Manufacturers

Left :- [839] {1} Rentokil injector. Date 1980's. Plastic container height 3½ diameters and 2 inches in diameter.

Left :- Mysto pneumatic used as the basis for a Rentokil Fetcham injector. For more information see W T French & Son.

Right ;- Drawing of the patent nozzles.



Sundry Manufacturers

Peter Ross & Sons.

Townshead Work, Sheffield and 47 Houndsditch, London.

Peter Ross at Townshead Works, Sheffield is listed as an awl maker in 1861.

Above :- [583] {4} Barrel length 14 inches with a diameter of 1½ inches. Rose and jet nozzles with holder on the barrel for nozzle not in use. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. Cotton reel type piston ½ inch in length. The handle is not original.

Ronald C Salt

15 Carlton Road, Derby (1935). 70 Pastures Hill, Littleover, Derby (1938).

Manufacturer of garden syringes and backpack sprayers.

Saynor Cooke & Ridals

Paxton Works, Edward Street, Sheffield. Established 1738 as Saynor and Cooke. They are famous for their knives, but also advertised in 1895 that they produced all kinds of horticultural tools. The syringe in my collection has an unusual type of fast-fill valve which suggests that they were the actual manufacturer, and that they were not acting as a retailer.

Sundry Manufacturers

Above :- [891]{4}. Brass syringe, Barrel length 18 inches and diameter 1½ inches. Brass manufacturer's plate. Hollow brass piston rod ½ in length. Cotton reel type piston ⅜ inch in length. It does not have a true stuffing box. Short tube from air vent.

Two rose nozzles and a jet nozzle, all have an unusual fast-fill valve. In the rose nozzles the perforated rose plate is free to move slightly backwards and forwards. When the syringe is filling the rose plate moves back allowing liquid to flow in through cut-outs in the edge of the plate, as well as through the rose perforations. On the push stroke the whole rose plate moves forward and these cut-outs are sealed, only allowing the liquid through the rose. The jet nozzle works in a similar way. The jet nozzle is set in the middle of a perforated ring. While filling the whole unit moves backwards allowing liquid through the outer ring of holes. On the push stroke the unit moves forward and the holes are blocked so that liquid can only exit via the central jet nozzle.

Left :- The interior of one of the rose nozzle.

Right :- The interior of the jet nozzle

Secto Co Ltd

Blackburn.

In 1927 advertising SECTO for killing bed bugs. Advertised as being made by the SECTO Mfg Co. The company provided the government with DDT during WW II. In 1947 SECTO DDT spray was being advertised for killing insects in the home. In 1948 Ewart Wooley was chairman. The company was important in introducing aerosols in Britain. Gordon Wooley his son was involved in the business. There is a 1958 advertisement for SECTO in an aerosol can.

Sundry Manufacturers

The company was still operating in 1973 but not found after that
Known from a tinplate sprayer with plastic end caps.

Brand name - SECTOSPRAY

Above :- [566] {4} Tinplate sprayer. Red painted with yellow lettering. Barrel length 17½ inches. It has a fixed rose nozzle. The piston rod is ¼ solid steel. Cup washer piston. Wooden barrel end caps.

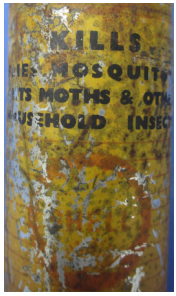
Sheath Bros - Sprayers.

Shell Oil Co - Tinplate sprayer.

Shell produced a number of horticultural and home use chemicals for spraying. The logo on the sprayer illustrated below, suggests it was made between 1955 and 1961. It was made for use Shelltox. This DDT based insecticide in which was banned in the 1970s.

Above :- [898] Tinplate sprayer with Shell Logo. Barrel length 9½ inches with a diameter of 1½ inches. Steel piston rod $^{3}/_{16}$ inch in diameter. End of piston rod formed into handle. Container 3½ inches in diameter with a length of 3 inches. Filler cap. Piston type unknown. Adjustable nozzle. Method of working is believed to be by pressurising the container to force liquid through an output tube where it is mixed with some pressurised air coming directly from the pump.

Sundry Manufacturers



Left :- Reads "THIS SPRAYER IS FITTED WITH A SPECIAL ADJUSTABLE NOZZLE FOR USE WITH SHELLTOX FLUID DO NOT USE NEAR A NAKED FLAME MADE IN GREAT BRITAIN"

Singleton - Sprayers.

Smith Sprayers Ltd

Birmingham. Compressed air and other sprayers

Strawsons Ltd London

75a Queen Victoria Street London. Mr George Frederick Strawson (see inventors). Patentees and Manufacturers of Insecticide Machinery and Apparatus, and of insecticides and fungicides suitable for every pest on all plants.

STRAWSON'S SEVEN ROW SPRAYER

Strawson's, Limited, of Queen Victoria-street, are bringing out new forms of "Strawsonizers," and sprayers specially designed for the plants for which they are intended. The latest is a knapsack machine for tea plants. In this the spray is so fine that the two gallons of kerosine which the receptacle holds will last a man for half a day. Mr. Strawson is more particularly turning his attention to perfecting the potato sprayer. The potato crops in Ireland still suffer so much from blight

STRAWSONS LIMITED,

Patentees and Manufacturers of Insecticide Machinery and Apparatus, and of Insecticides and Fungicides suitable for every pest on all plants throughout the world.

SOLE PROPRIETORS OF

THE "STRAWSONIZER,"

THE "POTATO STRAWSONIZERS,"

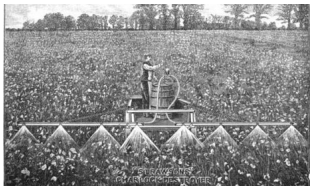
WITH HORSE AND HAND POWER, AND

"STRAWSONITE,"

For Checking Potato Disease, &c. &c.

STRAWSONS LIMITED,

75A QUEEN VICTORIA STREET, LONDON, E.C.



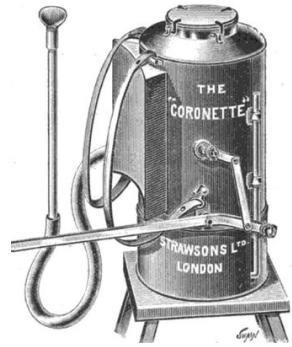
Sundry Manufacturers

Originally a partnership between John F D Maillard and George Frederick Strawson trading as Maillard and Strawson, Chemical Manure Manufacturers at Ham Bridge Mills, Newbury. On 9 February 1883, Maillard left the partnership, and the business became Strawson & Co. In 1885 he is in the Register of Pharmaceutical Chemists still at Ham Bridge Mills.

G F Strawson has several patents some of which are for improvements to sprayers (see Chapter 52 inventors). In 1892 he was selling the STRAWSONIZER, both hand and horse powered for spraying potatoes. It was advertised for spraying Nitrate of Soda, Soot, Salt, Lime and other liquids. The Army and Navy catalogue of 1902 has illustrations of a knapsack powder blower, and the STRAWSON'S IMPROVED ANTIPEST copper backpack sprayer. This seems to be a diaphragm sprayer of an uncomplicated design. From 1908 onwards there are advertisements for Strawson Sprayers being sold by Mackies Ltd of Reading. Some of these state that Mackies is the sole manufacturer. I suspect that Mackies Ltd was always the manufacturer of the sprayers, and that around 1905 they took over the distribution, possibly when G F Strawson retired.

Below :- Strawson's ANTIPEST (in Harrods Catalogue 1912)

Below :- Strawson's CORONETTE - 1902



Sundry Manufacturers

Right :- London Gazette 1883.

NOTICE is hereby given, that the Partnership heretofore subsisting between us the undersigned, John Francis Drake Maillard and George Frederick Strawson, of Ham Bridge Mills, near Newbury, in the county of Berks, Chemical Manure Manufacturers, under the firm or style of Maillard and Strawson, has been this day dissolved by mutual consent; and that all debts due and owing to or by the aforesaid late firm will be received and paid by the said George Frederick Strawson, and that in future such business will be carried on by the said George Frederick Strawson under the style of Strawson and Co.—As witness our hands this 9th day of February, 1883.

John F. D. Maillard.
George F. Strawson.

R Sumner & Co Ltd

40 Hanover Street Liverpool. Manufacturing Chemist. Small and medium size pneumatic sprayers with their name are known. Known to be operating from mid 1800s to 1930s. The sprayers appear to be by Benton and Stone and branded for Sumner.

Tamlin

Possibly W Tamlin of Twickenham London who were suppliers of poultry equipment.

Tamlin's Spray Pump. Brass stirrup pump with an air chamber.

Taylor, Law & Co Ltd

Anchor Works, Birmingham. TALA brand.

1926 Advertisement for TALA sprayer.

Sundry Manufacturers

Tidswell - No details

Tomlinson and Hayward Ltd

51 Newlands, Lincoln.

1880. The business was a partnership between Charles Knowles Tomlinson and John Hayward.

Became part of Cooper, McDougal and Robertson in 1937.

Fly spray manufacturer. Also made ‘Eureka’ weed killer for lawns.

United Brass Founders and Engineers Ltd

United Brass Founders and Engineers of Empress Foundry, Cornbrook, Manchester, was established by Isaac Storey and Sons in 1910 by merging four companies in similar areas of business to reduce costs. These were: Gaukroger, Sykes and Roberts of Halifax; Isaac Storey and Sons of Manchester; Newman, Hender and Co. of Woodchester (Stroud); and Martineau, Beames and Madeley of Birmingham. The factories at Halifax, Manchester, and Woodchester were expanded.

The company manufactured brass fittings, pressure gauges, rotary pumps, and horticultural sprayers.

In January 1923, the firm transferred its head office and works from Manchester to its works at Ormskirk, Lancashire. The location was chosen because R. E. Hattersley lived in Ormskirk.

The company went into receivership in 1923. In August of that year, Mr. R. E. Hattersley purchased from the receiver the whole of the goodwill of the company; the land, buildings, plant, stocks, and the entire contents of the works at Halifax and Ormskirk, together with certain other assets. Charles Percy Newman purchased the Woodchester Works as a going concern from the receiver and also re−registered the name Newman, Hender and Co. to resume its independent identity.

Sprayer production does not seem to have continued after 1923.

Sundry Manufacturers

Above :- [983] {5} Brass syringe. Length 15 inches with a diameter of 1¼ inches. Jet nozzle with a holder for an additional nozzle which was probably a rose. Air vent with short tube. Hollow brass piston rod ⅝ inches in diameter with a cotton reel piston. Brass manufacturers plate REGISTERED TRADE MARK UBEL BRITISH MANUFACTURE UNITED BRASS FOUNDERS & ENGINEERS LTD. HOLLOWAY HEAD, BIRMINGHAM. Probably made by Martineau, Beames and Madeley of Birmingham.

Below :- 1913 Advertisement

SOMERSET COUNTY SHOW.

STAND 63.

United Brass Founders
and Engineers Ltd., . .

Birmingham, Manchester, Woodchester, & Halifax.

Spraying & Limewashing Machines
and HORTICULTURAL SUNDRIES.

Machines can be seen at Work.

Sundry Manufacturers

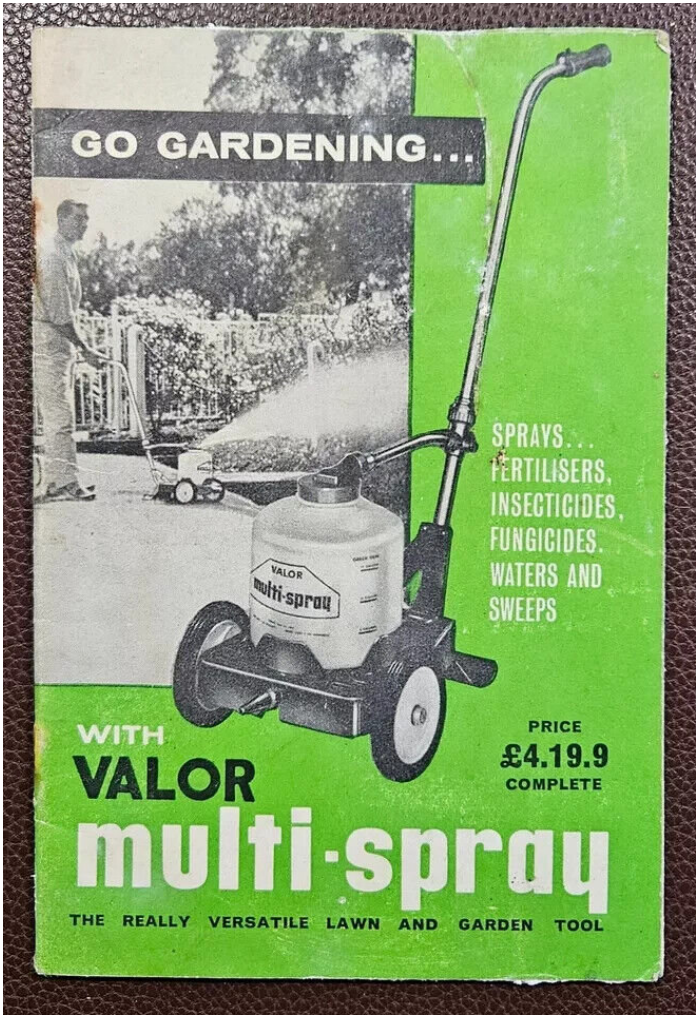
Below :- Advertisement circa 1918

" when replying to Advertisements. A3

Sundry Manufacturers

Valor - The Valor Co Ltd. Gardening Equipment Division Vaklor House 509/52 New Cavendish Street London W1

Valor Co. Ltd. was founded in Birmingham in 1890. initially producing oil storage cabinets for the Anglo-American Oil Co. 1927. In the 1960s Valor diversified its product line, including electrical equipment, garden furniture, and car components. Merged with the Yale Lock Company, becoming Yale & Valor. Sprayers were only produced for a few years in th1960s.



Sundry Manufacturers

VALOR
multi-spray *at work...*

The VALOR MULTI-SPRAY applies all liquid and soluble fertilisers, 61 gallons at a time, to large areas, quickly and evenly.

The VALOR MULTI-SPRAY applies fertiliser to the foliage as well as the roots. Fertilises vegetables, flowers, lawns, trees and shrubs.

The VALOR MULTI-SPRAY makes it simple to coat the undersides of the leaves, where pests and diseases hide, as well as the top surfaces.

The VALOR MULTI-SPRAY jet-pressured nozzle sweeps leaves, grass cuttings, dirt and debris from lawns, walks, driveways and terraces.

2

GO GARDENING WITH
VALOR
multi-spray

The sensational VALOR MULTI-SPRAY is an effective, handy garden appliance that makes spraying, fertilising and watering as simple as turning on the water. This 8 lb. compact unit is versatile, easy to use and as there are no moving parts, and nothing to wear out, it will with care last for many years.

It was designed to do as many jobs as possible around the garden, for there is no stooping or bending, and practically anyone can use it.

The VALOR MULTI-SPRAY will liquid fertilise lawns, flowers, vegetables, shrubs and trees, and everything that grows, in one easy operation. It will do all spraying jobs, from fine mist to heavy spray, and with a tilt backwards will apply spray up to 20 ft. high with normal water pressure*. It will clean leaves and debris from lawns, paths, drives and patios.

The Weeder Bar attachment provides the most efficient method yet devised to apply liquid weedkillers, pesticides etc. correctly and efficiently without the danger of drift.

The VALOR MULTI-SPRAY does so many different garden jobs, so easily and so quickly, that you will have many more hours of relaxation and recreation to enjoy your garden.

**We do not recommend the use of this machine where the water pressure is below the low average of 30 p.s.i.*

3

Sundry Manufacturers

DILUTION TABLE

TO PREPARE CONCENTRATED SOLUTIONS

When Instructions call for	Then . . . With the RED (Broad Spray) GUN fill the container to one of these marks on the scale.			Or . . . With the GREEN (Mist Spray) GUN fill the container to one of these marks on the scale.		
Liquid or Solid (per gallon)	c.c.	Litres	Fl. Oz.	c.c.	Litres	Fl. Oz.
1 teaspoon	200	0·2	7·0	100	0·1	3·5
1½ teaspoons	300	0·3	10·5	150	0·15	5·5
2 teaspoons	400	0·4	14·0	150	0·15	5·5
3 teaspoons	600	0·6	21·0	200	0·2	7·0
1 tablespoon	800	0·8	28·0	300	0·3	10·5
2 tablespoons	1700	1·7	60·0	600	0·6	21·0
3 tablespoons	2500	2·5	88·0	800	0·8	28·0
4 tablespoons	3400	3·4	119·5	1100	1·1	38·5
5 tablespoons	4200	4·2	148·0	1400	1·4	49·0
6 tablespoons	—	—	—	1700	1·7	60·0
7 tablespoons	—	—	—	2000	2·0	70·5
8 tablespoons	—	—	—	2300	2·3	81·0
½ fluid oz.	400	0·4	14·0	150	0·15	5·5
¾ fluid oz.	800	0·8	28·0	300	0·3	10·5
1 fluid oz.	1200	1·2	42·0	450	0·45	16·0
1 fluid oz.	1700	1·7	60·0	600	0·6	21·0
1½ fluid oz.	2500	2·5	88·0	900	0·9	31·5
2 fluid oz.	3400	3·4	119·5	1100	1·1	38·5
2½ fluid oz.	4200	4·2	148·0	1400	1·4	49·0
3 fluid oz.	—	—	—	1700	1·7	60·0
3½ fluid oz.	—	—	—	2000	2·0	70·5
4 fluid oz.	—	—	—	2300	2·3	81·0
4½ fluid oz.	—	—	—	2600	2·6	91·5
5 fluid oz.	—	—	—	3000	3·0	105·5
6 fluid oz.	—	—	—	3400	3·4	119·5
7 fluid oz.	—	—	—	4000	4·0	140·0
8 fluid oz.	—	—	—	4500	4·5	158·5

When Instructions call for	Then . . . With the RED (Broad Spray) GUN put this amount in the container.		Or . . . With the GREEN (Mist) GUN put this amount in the container.	
Solid (per gallon of water)	lb.	oz.	lb.	oz.
¼ oz.	–	15	–	5
½ oz.	1	4	–	6½
¾ oz.	1	14	–	10
1 oz.	2	8	–	13
2 oz.	3	13	–	15
1 oz.	3	12	1	4
1¼ oz.	–	–	1	9
1½ oz.	–	–	1	14
1¾ oz.	–	–	2	3
2 oz.	–	–	2	8
2½ oz.	–	–	3	2
3 oz.	–	–	3	12
3½ oz.	–	–	4	6
4 oz.	–	–	5	–

8

HELPFUL HINTS

TO SPRAY FERTILISERS

The RED (Broad Spray) GUN, with average water pressure, will produce a spray 8 to 12 feet wide and 25 to 30 ft. long, and will apply 61 gallons of mixed solution to your lawn and plants in a few minutes. The RED (Broad Spray) GUN throws a spray fine enough to water newly seeded lawns, flower and vegetable beds without disturbing the seeds or having to walk upon the seed bed.

When spraying large areas it is advisable to stake or mentally mark out the area over which the fertiliser is to be applied, to ensure that the solution is sprayed as evenly as possible.

FOLIAR FEEDING

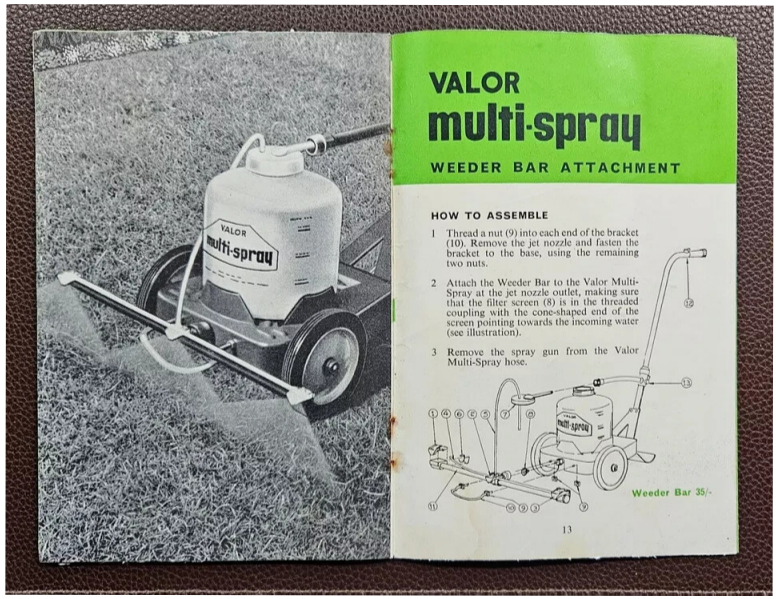
Applying plant nutrients to the leaves and stems of plants is a relatively new basic technique in gardening. Through foliar feeding, plant foods are more quickly available to the plant and the nutrient elements are used more efficiently. This method of feeding is particularly beneficial during adverse growing conditions, such as when soils are very dry or waterlogged. Much of the solution is absorbed by the leaves but any which runs off goes into the soil to be used by the roots.

Where the same fertiliser solution is recommended for both root and foliar feeding, the VALOR MULTI-SPRAY will do both jobs in one application.

Some of the proprietary fertilisers that can be used with your VALOR MULTI-SPRAY are:—

Bio Plant Food, Compure K, Compure Liquid Fertiliser, Foliar Feed, 50-50 Grass Feeder, Lawn Reviver, Liquinure, Maxicrop, Murphy Organic Liquid Fertiliser, Liquid Green, Sangral, Solufeed, Spurt, Sequestrene, Supplex Liquid Fertiliser.

9



VALOR multi-spray

WEEDER BAR ATTACHMENT

HOW TO ASSEMBLE

1 Thread a nut (9) into each end of the bracket (10). Remove the jet nozzle and fasten the bracket to the base, using the remaining two nuts.

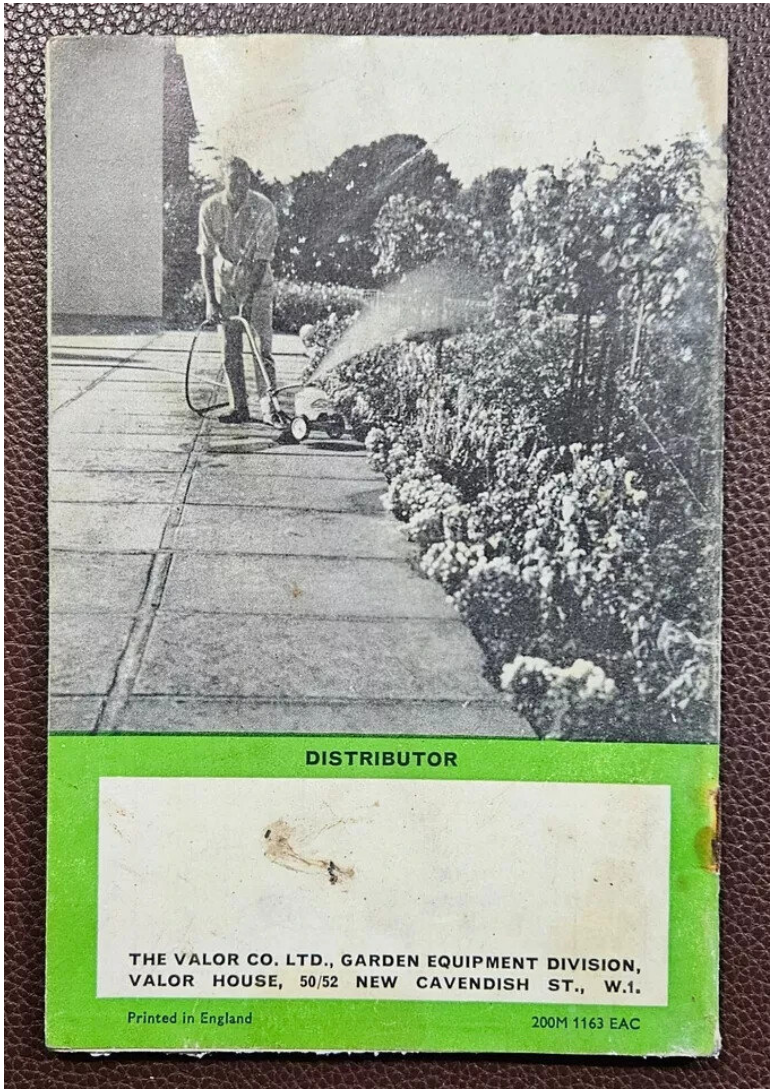
2 Attach the Weeder Bar to the Valor Multi-Spray at the jet nozzle outlet, making sure that the filter screen (8) is in the threaded coupling with the cone-shaped end of the screen pointing towards the incoming water (see illustration).

3 Remove the spray gun from the Valor Multi-Spray hose.

Weeder Bar 35/-

13

Sundry Manufacturers



Sundry Manufacturers

A C Wells & Co Ltd

Originally at Carnarvon Street, Cheetham, Manchester.

Also of 103/5 Midland Road, St. Pancras, London NW 1.

Providence Mill, Alexandra Street, Hyde Cheshire.

1880 to 1960. Lime sprayers in 1930, 1937 and 1943. Appear to have been manufacturers.

Oil lights and lamps. Paint spraying machines. Waste oil filters. Spray Guns, Lathe Cans.

550 BENN'S ENCYCLOPÆDIA, 1947

WELLS WARES WEAR WELL

WASTE OIL FILTERS

Reduce oil costs to a minimum. The same oil may be re-filtered and used many times over. Wells special syphon feed ensuring the purity of the filtered oil. Don't use cotton waste or other crude material in the filter boxes—ALWAYS REFIT WELLS' FILTER PADS and ensure perfect filtration.

LATHE CANS

Made of iron, these lathe cans will withstand years of wear. Two sizes are made—2 pint and gallon, both fitted with brass universal fittings.

SPRAY GUNS

Wells' latest spray gun is made carefully for quick work. Faster than most, it will spray all day and every day—its perfect finish being a constant insurance against any possibility of mechanical breakdown.

LIME SPRAYERS

Wells' lime sprayers enable you to apply lime, whiting, or cold water paints at a speed of from 10 to 20 sq. yards per minute. One coat on rough or dirty surfaces is equal to two applied with brushes, simply because the material is driven into surfaces, corners and difficult places where a brush would not reach. There are several sizes of Wells' spraying equipment, from the inexpensive 6-gallon model No. 8 shown below to the double-nozzle machine for operations over large areas. The machines are made of the most durable materials: designed to withstand rough usage, and are capable of giving years of hard service.

ACETYLENE TRENCH LAMPS

These light and portable lamps are extremely useful for trench work and cable laying, being very easily moved. Fully charged they weigh only 28 lb., give a light of 150 candle-power and burn for six hours. They can be supplied with swivel arm or vertical standpipe (as illustrated).

No. 18a TRENCH LAMPS

Made from annealed cast iron, these lamps are particularly useful in fog. The lamp illustrated has a five pints capacity and will burn for eight hours.

Other Sizes

No. 4	½ pint
4A	2 "
5	3 "
5A	2 "
5B	1 "
1B	3 "
'20 Moulders Lamp	

A. C. WELLS & CO. LTD

PROVIDENCE MILL · ALEXANDRA ST. · HYDE · CHESHIRE

Phone: HYDE 953. Grams: Unbreakable, Hyde

Sundry Manufacturers

Advertisement 1937

Wells' "Lightning" Lime and Colour Sprayer (T).

SPRAYING
SUPERSEDES
BRUSHWORK.

FOR FARMERS,
COUNTRY
ESTATES, ETC.

No. 5c. LIME WASHER.

No. 8 LIME WASHER.

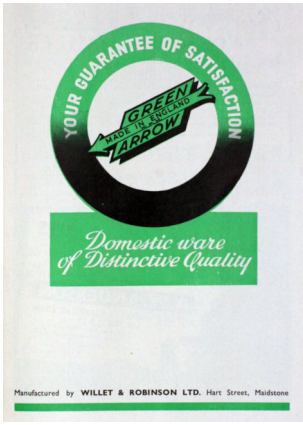
	£	s.	d.
No. 5c, 30 gallon Truck Type, double nozzle	18	0	0
No. 5A, 12 gallon Wheeled Type, Double Nozzle	15	15	0
No. 4A, 8 gallon Wheeled Type, Single Nozzle	12	10	0
No. 6, 6 gallon Wheeled Type, Single Nozzle...	10	0	0
No. 6A, 6 gallon Wood Base, Single Nozzle ...	8	0	0
No. 8, 6 gallon Light Type, Single Nozzle ...	4	15	0

Delivery free on goods to the value of £10 and over.

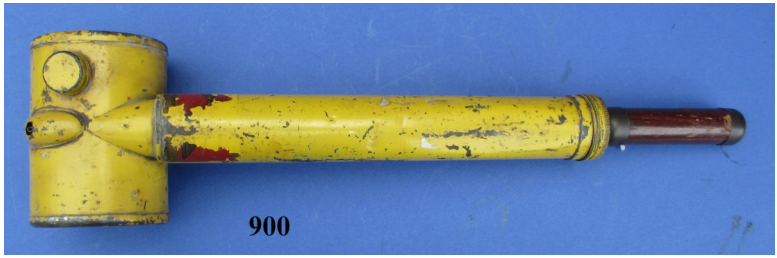
See your Member's Ticket for "C.G.A." discounts.

Sundry Manufacturers

Willet & Robinson



Earl Street, Maidstone Kent. Later at Hart Street Maidstone. Manufacturer of tinplate items. The company was established in 1851. In 1919 it was trading as Willet and Robinson but by 1946 it had become Willet & Robinson Ltd. The company seems to have been trading into the 1960s. Known for kettles and other domestic ware. There are patents in the company name for a bread bin, a sanitary disposal unit, and an improved carpet sweeper. During WW II they produced an anti-malarial dust gun, and rum fannies for the Royal Navy. Used the GREEN ARROW BRAND.



Above :- [900] {4} Tinplate sprayer. Manufacturer's details embossed on barrel end cap. Remains of a logo on barrel. Barrel length 10 inches with a diameter of 1½ inches. Container diameter 2½ inches and length 4 inches. Air pump with a forward facing cup washer piston on a steel piston rod. Plastic handle. Appears to use the venturi effect to generate the spray.

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Chapter 52

Inventors

Inventors

This chapter covers the individuals who have patents related to sprayers. Many these were involved with companies covered in other chapters but some are not mentioned elsewhere. In many cases patents were in both the name of the company and the individual. Sometimes the individual was the owner or a director of the company.

Henry Gardiner Atkinson - Patents with Herbert Stone of Benton & Stone Ltd.

Phillip Henry Bailey - Patents with Walter Purser for G & W Purser.

Frederick Bannister - Patent GB189621134A dated 14 August 1897.

John Black - New Zealand inventor with GB patents. One for an adjustable nozzle (GB189702423A dated 12 June 1897) and the other for a pneumatic sprayer (GB189624933A dated 31 July 1897). The pneumatic sprayer is an air pump which fits inside a container. Pumping air into the container forces the liquid in the container out through a nozzle. It is basically a standard implementation of a pneumatic sprayer, but with a special nozzle which allows adjustment from a jet to a spray.

Frederick Cooper - Born 1846 in Shipton on Stour. Resident in Lime Close, Handsworth, Staffordshire in 1881 at the time of his patent for drip protectors (Patent 2643 1881). In 1881 he is described as a Brassfounding Commercial Traveller, but it is not known if he had any association with William Cooper of Berkhamstead. The drip protectors are used on the syringes of William Cooper & Nephews, but are also extensively used on Benton & Stone syringes. He also has a patent GB189510368A dated 4 April 1896 for a grip on the syringe barrel. This patent and covers drip preventing sleeves which can be moved along the barrel. It also mentions Patent 2643.

Nickel Crombie - Patents for Cromessol Ltd.

Inventors

William Arthur Dawkins - 40 Edmund Street Birmingham. He has a patent (GB189511502A dated 21 September 1895) for an adjustable plunger. The adjustment is made by turning the handle. In the patent William Dawkins describes himself as a brassfounder,

Joseph James Day and Thomas Isaac Day - Prince of Wales Road, Kentish Town, London NW. They have a patent GB190013245A dated 23 July 1901 for a self supplying sprayer based on a force pump and a rose nozzle threaded so that it can be turned around when clogged.

Richard Edwards - The Gardens, Beechy Lees, Sevenoaks, Kent Patent (GB191120743A·25 July 1912) for an attachment to a sprayer which allow the dispensing of insecticide.

Royce William Foulkes - See Foulkes and Robinson in Sundry Manufactures.

William Spears Freeman - Patent GB189311857A published 21 April 1894. Improved spraying nipple.

Arthur Henry Gale - 110 Strand London. He has a patent (GB190414041A dated 2 March 1905) for a fast fill mechanism which worked by uncovering holes in the barrel end when the piston was pulled back. See G & W Purser.

Arnold Graves
Sunny Cottage, Wheathampstead, Herts.

Has a patent (GB294304A dated 26 July 1928) for a self supplying sprayer using a front supply.

Front supply sprayers are relatively rare. W T French and also Eclipse have sprayers of this design, but these appear to date to the 1950s. Possibly this patent prevented their use until this time.

Inventors

Herbert Henry Greaves

8 Copley Park, Streatham Common, London SW

He has a patent (GB191020175A dated 3 August 1911) for a sprayer which has two outlets one of which is at angle. The nozzle goes on one branch and a blank cap on the other. By changing these around it possible either to use the syringe to spray directly ahead or at an angle. G & W Purser also have a patent for a similar design.

William Grimley.- Eclipse Spraying Co. Several patents.

George Henry Hadgkiss - See Francis James Townsend.

G W Hawes for ACME Chemical Co Ltd - GB470649A 19 August 1937.

Gerald HIckman - See W T French & Son Ltd.

Josiah Keighley

Patent GB189621228A applied for 25 September 1896 and accepted 13 February 1897. This is for a fast fill entry point controlled by a lever fitted to the outside of the syringe.

A M Lee for ACME Chemical Co Ltd - GB596465A 5 Jan1945.

Henry Lisle for The Presto Gear Case and Components Co Ltd - GB190115107A 29 May 1902.

William Charles George Ludford - various patents for the Four Oaks Spraying Co.

John Macqueen Patent GB189415528A 15 September 1894. A patent for a fixed bend in a syringe.

William Michael Perry - see Donald Edwards Ltd.

58 South Moulton Street, Oxford Street, Middlesex. Patent 890 dated 18 September 1869 for improvements in the construction of garden and fire engines for pumping and forcing water. It is an implementation of a common pump with an air chamber.

Inventors

William Michael Perry - see Donald Edwards Ltd.

H E Newton Mason - see Testar & Swain

William Barber Press

Patent GB189413005A dated 17 November 1894. This is for a syringe attached to a mains hose which allows the syringe to be used to increase the pressure of the water leaving the hose. The aim to be to provide a stronger jet to remove pests.

Josiah Pumphrey

8 February 1871. Patent 330. Pump fitted inside a watering can.

Henry Lucien Reason - See W T French Ltd.

Edward Richards Beechy Lees, Sevenoaks, Kent.

Edward Richards was Head Gardener. He has a patent (GB191120743A dated 25 July 1912) for an attachment to a syringe which dispenses insecticide.

Emile Robinson - See Foulkes and Robinson in Sundry Manufactures.

Henry Saunders 19 Avenue Road, Southampton.

He has a patent (GB191202481A dated 25 July 1912) for a garden pump which can discharge at any angle.

Charles Alfred Outwin Saxelby - see Benton & Stone Ltd.

William Mathews Siddall - See Francis James Townsend.

William Spears - He has a patent dated 16 November 1911. See Robinson Bros.

John Sanders Stevens

21 Sept 1875. Patent 1314. Pump driven from wheels.

Herbert Stone - See Benton & Stone Ltd.

Inventors

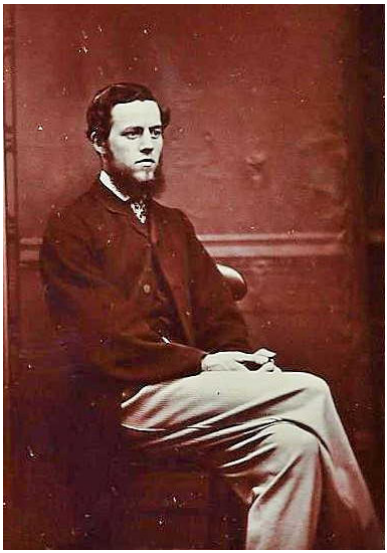
George Frederick Strawson - Also see Strawson Ltd in Chapter 51.

George Frederick Strawson was born in Lincolnshire on 24 August 1840. By 1880 he was in partnership with John F D Maillard operating as Maillard and Strawson at Ham Bridge Mills Newbury. They were Chemical Manure Manufacturers. The partnership was dissolved on 9 February 1883 and George Frederick Strawson continued to trade as Strawson & Co. In 1883 he was resident at 2 Beaconsfield Terrace, London Road, Speen. He was still in Newbury in 1890 when invented his sprayer the 'STRAWSONIZER'. They were general purpose sprayers but specifically designed for spraying potatoes with Strawson's own blight-preventing mixture of copper/lime known as STRAWSONITE. The sprayer was horse-drawn. The simplest version, capable of spraying five rows at a time was installed on a cart with one horse and operated by hand. More complicated versions capable of spraying 7 rows at a time with the pump connected to one of the cartwheels needed two horses. He was also selling a hand sprayer of the knapsack type called the STRAWSON'S ANTIPEST, and a backpack powder blower called the CORONETTE. Strawson sprayers were particularly appreciated in Ireland where the Irish Potato Famine of 1845 to 1852 was still a recent memory. His sprayers were also in use in South Africa, Australi, New Zealand and the USA. By 1895 he had taken his family to live at 6 Rydal Road, Streatham, in South London, which he named "KealCotes". In 1901 census he is described as a patentee, and was still living in Rydal Road. By 1902 he had offices in London and was trading as Strawsons Ltd. He appears to have retired by 1905. He died on 1st March 1919. As well as patents for sprayers he also patented a method for fitting glass to greenhouse roofs.

Sprayer Patents

UK patent 1615 (US411692) 2 February 1888. Horse drawn seed and Fertiliser and Insecticide powder distributor.
GB189410225A dated 30 March 1895. Swivel nozzle
GB189728451A dated 19 February 1898. Use of a diaphragm in a rucksack sprayer.
GB189728708A dated 5 November 1898. Improved Spraying Machine.
GB189900491A dated 11 November 1899. This covers a small bore tube running from the air vent to a point down the barrel used to direct liquid getting behind the piston back into the container.

Inventors



Left/below :- George Frederick Strawson.

Right :-
Strawson's ANTIPEST. Possibly being demonstrated by G F Strawson.

Below :- Extract from Belfast News-Letter 28 May 1920

Strawson's Potato Sprayers. Without fear of contradiction give credit of introducing the art of Potato Spraying in Ireland to the late Mr. Strawson, who spent the latter years of his life for the benefit of his fellow-man to eradicate or kill out the potato disease. He constructed and made the best Cart Sprayer to be placed on a farm cart. We were appointed his agents at the commencements, and we have sold thousands these Machines. See Exhibit on Stand 14. T. & J. M'Ervel, Ltd., Belfast.

Inventors

John Reuben Taylor - See Benton & Stone Ltd.

Frederick Thould - See W J Craven Ltd.

Francis James Townsend - Patent GB189619902A dated 21 August 1897. With William Mathews Siddall and George Henry Hadgkiss. This is for a double action pump. This is described for use as an air pump but could be adapted for use as a self supplying sprayer for liquids.

Frank Geoffrey Tunnell - See W T French

William T Vose

Newtonville, Massachusetts USA. Patent 26135 dated 26 February 1861. Double action pump held with the foot (stirrup). Included here as a UK version was made by Griffiths and Browett of Birmingham.

Donald Norrie Walker-Pitt - see Donald Edwards Ltd.

James Watson - Patent GB189523353A dated 5 December 1895. This is for a portable force pump with an air chamber.

Ernest Cecil West - see Donald Edwards Ltd.

Walter White - Patents with Herbert Stone of Benton & Stone.

Thomas Wyatt - 104 Colmore Row, Birmingham.

Has a patent with William McNab (GB190802542A dated 21 January 1909) for a self supplying sprayer with the supply through a hollow piston rod. It also has a tap between the barrel and the nozzle.

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Chapter 53

Miscellaneous

Miscellaneous

Introduction

This chapter includes items in my collection which do not fit in any other chapters.

- Sprayers with manufacturer's or seller's plate where the company is unknown.
- Sprayers which were definitely made overseas which are not included under an UK agent.
- Sprayers where the manufacturer is unknown, but which have some special feature of interest.
- Items which superficially resemble horticultural sprayers or which could be used for horticultural spraying as well as for their original purpose.
- Items which are clearly not sprayers which have not been included elsewhere.

Manufacturers Mentioned

Robt. T Deakin	Overseas Companies	
Diamond	Unknown Companies	
Famos	Unknown Companies	
Hercules Manufact.Co	Non-Sprayers	Drain Cleaners
K & S	Unknown Companies	
Mawes	Non-Sprayers	Stomach Pump
Morgan-Lee	Wallpaper Trimmer	Wallpaper Trimmer
Rega Australia	Overseas Companies	
Selfridges	Non-Sprayers	Fire Extinguishers
Sheen	Non-Sprayers	Flame Guns
D D Smith Utica USA	Overseas Companies	
John Tann	Non-Sprayers	Oilers
Tecalemite	Grease Guns	
Thureau	Overseas Companies	
Webber Bros Ltd	Non-Sprayers	Air pumps
Wolf Tools	Non- Sprayers	Auto spade

Miscellaneous

Unknown Companies

These sprayers have some identifying marks but the company they refer to cannot be identified.

Above :- [840] There is a crest on this syringe, but no other details. Possibly the manufacturer has a Royal Warrant. Barrel length 18 inches and diameter $1^{7}/_{16}$ inches. Removable rose nozzle. Hollow brass piston rod ½ inch in diameter. Cotton reel piston ¾ inch long. Both ends of the barrel have a collar.

Above :- [500] There is a plate which reads "GHR LONDON" but no other marks. Barrel length 18 inches and diameter 1⅝ inches. Removable jet nozzle which has a separate fast-fill valve. This is controlled by a cone shape fitting. Hollow brass piston rod ½ inch in diameter. Cotton reel piston ½ inch long. Both ends of the barrel have a collar. Single jet nozzles may indicate use for window washing or similar.

Above :- [500] There is a plate which reads "THE 'DIAMOND ' J K & S L No. 1539" in two interlinked diamond shapes. This manufacturer is not known for sure. Rose and jet nozzles with holder on the barrel for the nozzle not in use. Steel piston rod ⅜ inch in diameter. Cotton reel type piston ⅜ inch long. Both ends of the barrel have a collar.

Miscellaneous

Famos

Possibly the Arma Manufacturing Co Ltd. 29 Great Saffron HIll, London EC. who used the brand name FAMOS in 1924 for their well advertised oil lamp. However, the sprayer is most likely a foreign import as it has been seen for sale on a Czech website. A rare example of bakelite used in a sprayer.

Miscellaneous

Above :- [936] Famos brand. Spray pump. For any liquid. Bakelite container, 3 inches in both height and diameter. Uses a force pump which is probably controlled by ball valves, but it would require destructive dismantling to confirm this. Examples are known which have an external spring around the piston rod (see inset). Spray nozzle.

Miscellaneous

Overseas Companies

These sprayers were not made in the UK. Even though I don't collect them a few have found their way into my collection. Some sprayers manufactured overseas are included in the main chapters where a UK company was an agent for the overseas company. In these cases, it isn't always possible to be sure where a sprayer was made. Sprayers made in the UK usually have imperial sized parts whereas those made in continental Europe have metric parts. For example, a ball valve with a 1cm brass ball rather than a ½ inch ball was probably made in Europe. Sprayers made in the USA also use imperial size components.

Above :- [187] Plate with Robt T Deakin as the maker. Also badged with Peter Henderson Co. 35 Cortland St. New York, who were USA horticulturalists. Their shop in Cortland Street was known to be operating in 1899 when there was fire in the basement. Barrel length 18 inches and diameter 1½ inches long. Jet and two rose nozzles both with separate fast-fill valves. Jet nozzle, which may not be complete. Holder on barrel. fast-fill valve is of the cone type. One of the cones is wooden the other brass. Wooden one is well made, but may not be original. Cotton reel piston ⅜ inch in length. Both ends of the barrel have a collar.

Above :- [187 not owned. Rega Australia. Rega Products Ltd made, and still make, agricultural and horticultural spraying equipment, machines, atomisers, inflators, lacquer and paint spray equipment for home, garage, farm and professional PCO use. Their sprayers are occasional found.

Above :- [564] D B Smith & Co Utica NY is engraved on the nozzle. This was a fire pump. Originally it came with a backpack tank. It is a single action sprayer. Input is through a hose connected to the barrel (right hand end in picture) where there is a valve controlled by a brass ball. Output is through a hollow piston rod which has the nozzle (left in picture). There is a ball valve on the piston rod near to the piston this is assisted by a spring. The piston rod is a fairly tight fit in the barrel. The piston is of the cotton reel type ⅝ inch long. It will spray only on the push stroke when the piston is being pushed back into the barrel. On the pull stroke liquid is sucked from the container into the barrel. Barrel length 18 inches with a diameter of 1⅛ inches. The piston rod diameter is ¾ inch. The piston appears to be brass and not a very good fit which means the sprayer relies on the displacement caused by the piston rod moving within the barrel. There is a wooden grip on the piston rod. The nozzle may have produced a wide but intensive spray.

Left :- Top of nozzle.

Left :- Inside of nozzle.

Left :- The end of the piston rod with a buffer spring and brass piston (right).

Miscellaneous

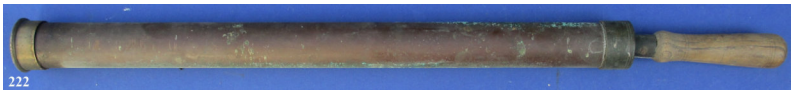
Above :- [594] Thureau of Paris. Small pneumatic with the container about 15 inches in height. This sprayer has an external pump which is used to pressurise the container and also to charge it with liquid. The container is placed in the liquid and the pump used both the fill and pressurise the container. This method is not one normally used by UK manufacturers.

Miscellaneous

Special Feature

Artisan Sprayers

Prior to the later part of the 18th century most syringes would have been made by blacksmiths or other metal workers in small workshops in villages or on estates. Exactly the same techniques were still being used by blacksmiths into the1950s and beyond. Typically, the syringes use more robust materials with the barrel walls being ⅛ inch thick. Copper is often used for the barrel instead of brass.



Above :- [222] The barrel walls are ⅛ inch thick and possibly copper. The length is 20 inches with a diameter of 1⅝ inches. It has a fixed rose nozzle. The piston is a copper rod ⅜ inch in diameter. The piston is of the cotton reel type with a length of ⅜ inch. The handle may be from an old chisel.

Above :- [439] The barrel walls are ⅛ inch thick and possibly copper. The length is 18 inches with a diameter of 1⅜ inches. It has a removable rose nozzle. The piston is hollow brass ⅜ inch in diameter. The handle is metal "T" shape. The piston consists of a special shaped brass washer which fits tightly inside a cup washer. This assembly is then held between two brass washers, which screw onto the end of the plunger rod.

Above :- [038] The barrel walls are ⅛ inch thick copper. The length is 14 inches with a diameter of $1^{7}/_{16}$ inches. It has a fixed rose nozzle. The piston is solid brass ⅜ inch in diameter. The piston consists of back-to-back leather cup washers.

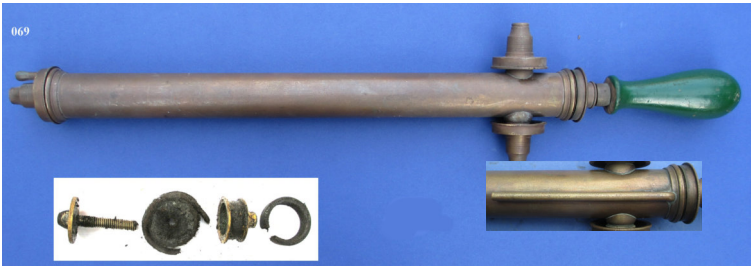
Miscellaneous

Above :- [415] The barrel walls are ⅛ inch thick copper. The length is 12 inches with a diameter of 1¾ inches. It has a fixed rose nozzle. The piston is hollow brass $^{7}/_{16}$ inch in diameter. The handle is metal "D" shape. The piston consists of back-to-back leather cup washers.

Air Vent Pipe

The following are sprayers of unknown manufacture which have a pipe running from the air vent down the side of the barrel. Liquid escaping through the air vent when the sprayer is filled passes through the tube and into the container. George Frederick Strawson has a patent for this feature.

Above :- [121] Barrel length16 inches with a diameter of 1½ inches. Jet nozzle. Missing a nozzle. The piston is hollow brass ⅜ inch in diameter. The piston is of the cotton reel type ½ inch in length. Stuffing box. There are collars on both ends of the barrel. Air vent pipe 1½ inches long. The nozzles have an additional central screw thread which fits onto the holder on the barrel.



Above :- [69] Barrel length16 inches with a diameter of 1½ inches. The piston is hollow brass $^{5}/_{16}$ inch in diameter. Two rose nozzles both with central fast-fill valves controlled by a cone shaped component. Jet nozzle with a side fast-fill valve controlled by a cone shaped component. The piston is of the cotton reel type ⅜ inch in length with a leather band. This is supplemented by a forward facing cup washer. Stuffing box. There are collars on both ends of the barrel. Air vent pipe 5 inches long. The nozzles have an additional central screw thread which fits onto the holder on the barrel.

Miscellaneous

Above :- [93] Barrel length18 inches with a diameter of 1½ inches. The piston is hollow brass $^{5}/_{16}$ inch in diameter. Rose and jet nozzles. The piston is of the cotton reel type ⅜ inch in length. Stuffing box. There are collars on both ends of the barrel. Air vent pipe 2 inches long. The barrel of this syringe has been engraved with an elaborate pattern.

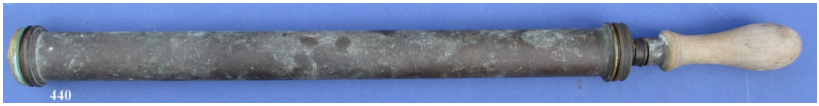
Barrel End Cap

Above :- [592] The barrel end cap on this small syringe is a push fit. Two rectangular slots fit over to lugs in the barrel to hold the barrel end cap in place. Barrel length 7 inches with a diameter of ½ an inch. Fixed jet nozzle. Hollow brass piston rod $^{5}/_{16}$ inch in diameter. Cotton reel piston ⅜ inch in length.

Unusual Nozzles

Above :- [497] Brass syringe sprayer. Barrel length 14 inches with a diameter of $1^{1}/_{16}$ inches. This appears to be a removable rose nozzle with a central fast-fill valve which is stuck or has been deactivated. The piston rod is solid brass $^{5}/_{16}$ inch in diameter. Piston is of the cotton reel type ¼ inch in length. Stuffing box. The barrel has collars on both ends.

Miscellaneous



Above :- [440] Brass syringe sprayer. Barrel length 18 inches with a diameter of 1½ inches. This appears to be a removable rose nozzle with a central fast-fill valve controlled by a disc, Piston rod is hollow brass ⅞ inch in diameter. Piston is back-to-back leather cup washers. Stuffing box. The barrel has collars on both ends.

Left :- The central fast-fill valve is controlled by the washer (centre). This is held in by the screw-in component (right). The washer moves to block the central holes on the push stroke and to unblock them on the pull stroke when filling the syringe.

Above :- [413] Brass syringe sprayer. Barrel length 18 inches with a diameter of 1½ inches. The design of the fast-fill valve is similar to [440] above but some parts are missing. It has rose and jet nozzle with a holder on the barrel for the nozzle not in use. The rose has a central fast-fill valve controlled by a disc which is missing. This allowed liquid in through the central perforation while filling the syringe. The jet nozzle has a similar arrangement apart from the fact that the perforations surround the jet nozzle. Piston rod diameter $^{7}/_{16}$ inch. Cotton reel piston ⅜ inch in length. Both ends of the barrel have a collar.

Left :- [413] The inside of the two nozzles. Both would have had a central disc covering the inner perforations. This would move to block/unblock the perforations.

Above:- [353] This sprayer has an unusual spray nozzle which has two branches at 90 degrees. In the above picture the nozzle is shown on the sprayer. The fast-fill valve is the bottom branch. Barrel length 16 inches with a diameter of 1¼ inches. Hollow brass piston rod ⅜ inch in diameter. Cotton reel piston ½ inch in length. Stuffing box. The handle has been replaced. Both ends of the barrel have a collar.

Miscellaneous

Above:- [341] This sprayer has an unusual jet nozzle with a sliding plate to change the aperture size. Barrel length 18 inches with a diameter of ⅞ inch. Remains of gold lacquered finish. Purser type drip preventer 6 inches long. Hollow brass piston rod ⅜ inch in diameter. Cotton reel piston ½ in length. Collar on nozzle end of barrel only.

Above :- [753] Brass syringe sprayer. Barrel length 12 inches with a diameter of 1½ inches. The design of the spray nozzle is unusual. The barrel wall is $^{3}/_{16}$ inch thick making this a robust syringe. The spray nozzle has a separate fast-fill valve (left in the picture). This was probably controlled by a ball which is now missing. It has a rose nozzle and there are the remains of a holder on the barrel for another nozzle. There is a collar at the nozzle end of the barrel but the barrel end caps screws directly onto the barrel. It has a solid brass piston rod $^{5}/_{16}$ inch in diameter. The piston is of the cotton reel type ¼ inch in length. The handle is "T" shaped metal.

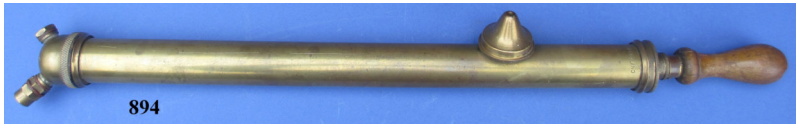
Left :- The fast-fill input (left) and the spray nozzle (right).

Right :- The components of the spray nozzle with the spray plug (centre).

Above :- [873] Brass syringe sprayer. Manufacturer is unknown, but the sprayer is included here as it appears to be fairly old. Barrel length 18 inches with a diameter of 1½ inches. Hollow brass piston rod $^{7}/_{16}$ inch in diameter. The piston is of the cotton reel type ¾ inch in length. Stuffing box. Rose nozzle. Jet nozzle with a separate fast-fill valve controlled by a ball. Spray nozzle which is not original, but an adaptation of what appears to be a rose nozzle fitted with a bend and an ABOL nozzle. Both ends of the barrel are fitted with a collar.

Miscellaneous

Above :- [615] This syringe has an unusual swivel spray nozzle. However, it does not have a fast-fill valve which is very rare as they are usually found with spray nozzles. Barrel length 16 inches with a diameter of ⅞ inch. There is a small drip protector built into the barrel end cap. Hollow brass piston rod $^{5}/_{16}$ inch in diameter. The piston is back-to-back leather cup washers. There is a collar on the front of the barrel but the barrel end cap screws directly onto the barrel. Could be Smith & Davis as they have a patent for a similar nozzle.



Above :- [894] This syringe has an unusual spray head. Barrel length 18 inches with a diameter of $1^{7}/_{16}$ inches. The piston is a back-to-back leather cup washers. There is a collar on the front of the barrel, and also one for the barrel end cap. It has "MADE IN ENGLAND" engraved on the barrel, which could mean it is W T French & Son (MYSTO), but I have not seen a sprayer of this design in their catalogue. Jet nozzle with a holder for nozzle not in use. Spray nozzle with a separate fast-fill valve controlled by a ball crimped in place.

Left :- [894] The fast fill valve.

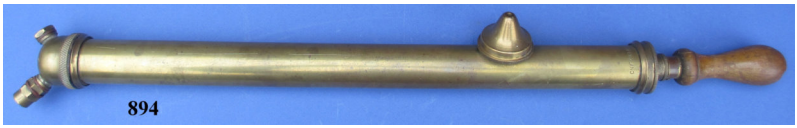
Right :- The jet nozzle.

Left :- [894] The inside of the spray head.

Above :- [949] Unusual syringe with a barrel in three parts. Barrel length 15 inches with a diameter of 1¾ inches. Piston rod ¼ steel with a ¾ inch cotton reel piston. Stuffing box. Rose and jet nozzles both with a washer controlled fast-fill valve. Barrel and construction of valve suggests pre 1900. Left is the inside of the spray nozzle with central fast-fill valve.

Miscellaneous

Above :- [615] This syringe has an unusual swivel spray nozzle. However, it does not have a fast-fill valve which is very rare as they are usually found with spray nozzles. Barrel length 16 inches with a diameter of ⅞ inch. There is a small drip protector built into the barrel end cap. Hollow brass piston rod $^{5}/_{16}$ inch in diameter. The piston is back-to-back leather cup washers. There is a collar on the front of the barrel but the barrel end cap screws directly onto the barrel. Could be Smith & Davis as they have a patent for a similar nozzle.



Above :- [894] This syringe has an unusual spray head. Barrel length 18 inches with a diameter of $1^{7}/_{16}$ inches. The piston is a back-to-back leather cup washers. There is a collar on the front of the barrel, and also one for the barrel end cap. It has "MADE IN ENGLAND" engraved on the barrel, which could mean it is W T French & Son (MYSTO), but I have not seen a sprayer of this design in their catalogue. Jet nozzle with a holder for nozzle not in use. Spray nozzle with a separate fast-fill valve controlled by a ball crimped in place.

Left :- The fast fill valve.

Below :- The inside of the spray head.

Right :- The jet nozzle.

Left :- The piston with back-to-back leather cup washers. Note the spring on the piston rod.

Miscellaneous

Unusual - Continuous Action

The two continuous action self supplying sprayers shown below were probably made by an overseas manufacturer, possibly Vermorel. They are included here because, instead of an air chamber they use a large spring.

Above :- [530] A hose is attached centrally. The external barrel length is 16 inches with a diameter of $1^{5}/_{16}$ inches. The actual barrel is at the rear of the sprayer (right) and is 8 inches long with an internal diameter of ⅝ inch. The front of the barrel is a pressure chamber but instead of relying on air pressurised on the pull stroke it has a large spring. The sprayer works on the same principle at the HYDRA sold by Cooper, Peglar & Co Ltd [402]. The handle is metal. The piston is back-to-back leather cup washers. It has a solid brass piston rod $^{5}/_{16}$ inch in diameter. Spray nozzle.

Above :- [346] Working in the same way as [530] above but a slightly different design.

Miscellaneous

Unusual - Small Hand Sprayer

Left :- [572] Small hand sprayer with a plastic bottle. Barrel length 8 inches and diameter 1 inch. Container height 6 inches with a diameter of 2½ inches. Capacity ½ a pint. Piston is a rubber 'O' ring, Versions with a red handle are known. This sprayer is probably 'THE DEFENDER'. This model was sold by a company using a logo of a lower case 'h' with three wavy lines. Known with 'Made in Britain' label.

Garden Pump

Left :- [630] A fairly modern implementation of a very old design. Similar to Read's garden engine.

Perfume Sprayer

Below :- [755] Perfume sprayer. Bottle diameter 2½ inches.

Miscellaneous

Non-sprayers - Sprayer Lookalikes.

These items were not intended for use as horticultural sprayers, but some could have been used for this purpose. They are now often advertised for sale as being ‘garden’ or ‘horticultural’ sprayers. The manufacturer of those shown below is either unknown or not one included in other chapters.

Air Pumps - Drain Stoppers, Football Pumps etc.

These are often confused with sprayers. Also looking very similar are the pump sections of handheld sprayers removed from the container. Bicycle tyre pumps are usually more easily recognised. As a general rule air pumps can be identified by the fact that they only have one forward facing cup washer. Their use can often be established from the manufacturer or from the nozzle. If there are no markings and the nozzle is missing then the best that can be established is that it is an air pump of unknown use.

Above :- [843] Webber Bros Ltd London. Believed to be a ball pump. Webber’s were selling footballs in the 1950s. Barrel length 10½ inches with a diameter of 1 $^{7}/_{16}$ inches. Also known to have been available in a larger size. See also Philip Waldron.

Above :- [844] The tap suggests a drain stopper (see below). Barrel length 9½ inches with a diameter of 1$^{7}/_{16}$ inches.

Miscellaneous

Above :- [404] Drain blocker. Allowed a drain to be blocked while it was being worked on. The bag could be deflated when the work was complete.

Drain Cleaners

These can be confused with syringes especially if the nozzle is missing. Capable of forcing air into a pipe to clear a blockage or sucking liquid and material from a blockage.

Above :- [838] Hercules lift and force pump. Barrel length 15 inches with a diameter of 1½ inches. Back-to-back leather cup washer piston. Hercules Manufacturing Co. Ltd.

Enema Syringes and Sausage Stuffers

Pewter versions of these can look similar. The enema syringes are usually smaller with a more elaborate handle and a narrow nozzle which is sometimes curved. Both could be adapted for use in the garden or greenhouse for spraying or watering.

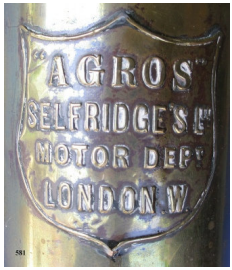
Miscellaneous

Above :- [416] Sausage Stuffer. Barrel is 5 parts with a screw on nozzle. The barrel is made in pewter. Barrel length 9 inches and diameter 2½ inches. Nozzle has an open end with an internal diameter of ¼ inch. The piston rod and handle are once piece of wood with the piston rod $1^{3}/_{16}$ inches in diameter. The piston is of the cotton reel type.

Fire Extinguishers

Early garden sprayers known as “Garden Engines” were also advertised for firefighting purposes. During WW II garden pumps were adapted for firefighting purposes. Stirrup pumps specifically designed for firefighting during WW II were used as garden sprayers following the war.

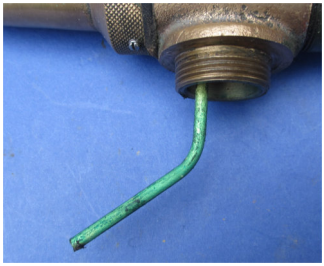
Left :- [581] Selfridges ARGOS motoring fire extinguisher. Height 12 inches.



Grease Guns

Above :- [526] Grease gun, Barrel length 9 inches and diameter $1^{15}/_{16}$ inches. Robust, Filled from top and not as a syringe.

Miscellaneous



Above :- Tecalemit Grease Gun. British Army Issue, Dating from 1972 the military version was issued for maintaining vehicles such as tanks.

Tecalemit was formed in 1922 at 10 Little Portland Street London from an amalgamation of Thecla and Alemite Brands. Later they moved to Plymouth. They remain a major manufacturer of garage equipment.

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Miscellaneous

Oil and/or Tallow Syringes

These were used for oiling of machinery or in processes involving the use of tallow such as candle and soap making. Also, possibly in the kitchen. Tallow is animal fat. It was used as a lubricant for heavy machinery as it resisted being washed off where water was present. Usually with an open nozzle about ⅜ inch in diameter but sometimes with a rose nozzle.

Above [393] I believe this to be an oil or tallow syringe. Made in two parts from brass. Barrel length 10 inches and diameter 1⅛ inches. Nozzle is open with an internal diameter of $^{3}/_{16}$ inch. The piston rod is solid brass ¼ inch in diameter. The handle is metal and 'T' shaped. There is a collar on the back end of the barrel. The nozzle is fixed.

Left :- The piston from the above.

Above [232] This is similar to [393] above. I believe this to be an oil or tallow syringe. The barrel is made in two parts from brass. Barrel length 10 inches and diameter 1⅛ inches. The nozzle has been adapted to form a rose. For some large machinery oil needs to be applied as a spray so this could still have been used for this purpose, but it may have been adapted for horticultural use.

Above [417] Oiler. Barrel length 18 inches with a diameter of 1½ inches.

Miscellaneous

Above [813] This could have been used for horticultural purposes, but the remains of the contents suggest it was used for oil. Barrel length 8 inches with a diameter of 1 inch. Rose nozzle. Extension to nozzle 6 inches long. Collar at both ends of barrel. The piston is back-to-back leather cup washers. The piston rod is hollow brass $^{7}/_{16}$ inch in diameter.

Above [842] Typical oiler. Barrel length 8 inches with a diameter of $1^{1}/_{16}$ inches. Rose nozzle. Extension to nozzle 9 inches long.

Above [538] Oiler. Barrel length 20 inches with a diameter of $1^{1}/_{16}$ inches. Fitted with a spring operated fast-fill valve.

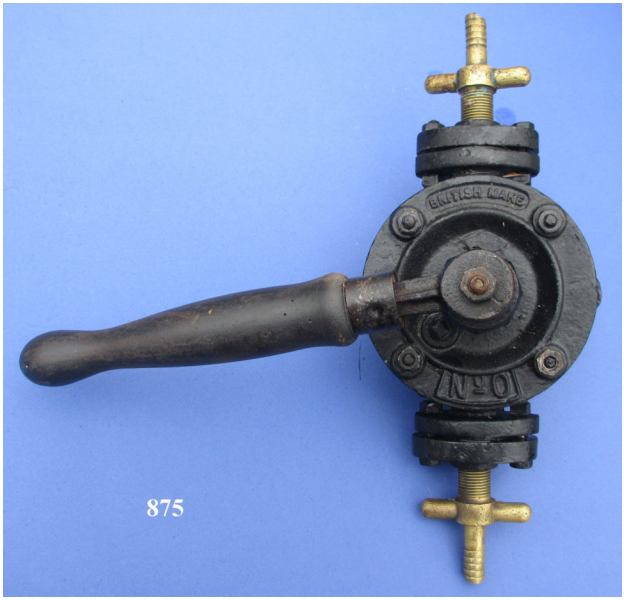
Above [502] The plate appears to be that of John Tann who were safe makers. The exact use of this is unknown, but I would speculate that it was for some special oiling purpose. The remains of the contents would support this.

Above [990] Unknown manufacturer and use. Barrel length 6 inches with a diameter of 1 inch. It appears to have been filled from the open end (see flaring). Remains of a oil or oil based substance on the wooden piston rod.

Miscellaneous

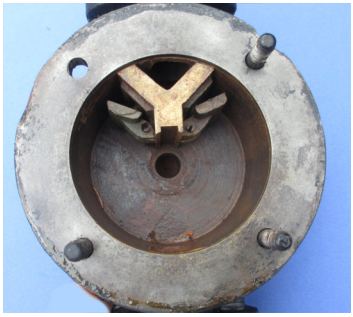
Semi-Rotary and Rotary Pumps

These are used for moving liquids but not normally for spraying. Around 1873, Pontifex and Wood Ltd (Chapter 49) have an advertisement for what looks like a semi-rotary pump mounted in a container. Augustus Siebe, in the official 1851 Great Exhibition catalogue, features a rotary garden pump (Chapter 49). Rotary pumps do not cope well with liquids which contain abrasive particles, and they are more expensive to produce. For these reasons the use of these pumps for horticultural purposes does not seem to have continued into the 20th Century.



Above :- [875] Semi-rotary pump. Diameter 5 inches. Manufacturer unknown but British made.

Below :- Valve mechanisms. Left are the fixed valves and right the rotating valves.

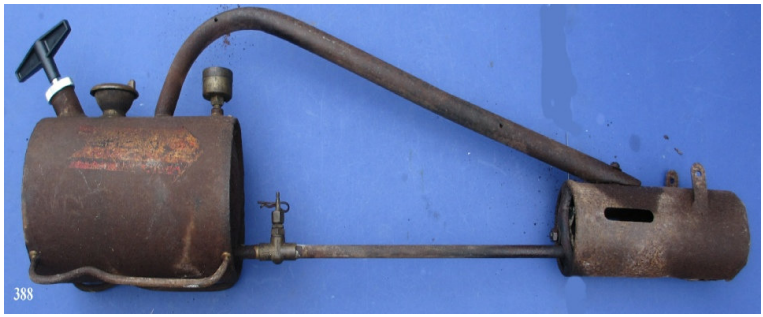


Miscellaneous

Non-Sprayers

These items have found their way into my collection mainly by being purchased with sprayers. They are included for interest.

Flame Gun



Above :- [388] The Sheen garden flame thrower is used for weed control

Stomach Pump (Medical pump)

Left:- [608] Maws of London. Medical stomach pump.

Miscellaneous

Thermometers

Left [424,433,434] Soil thermometer, dairy thermometer, bath thermometer.

Tyre Pump

Left :- Typical tyre pump (inflator). Sometimes now advertised as stirrup pumps. Barrel length 15 inches with a diameter of 1 inch.

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Miscellaneous

Gas Heated Plaster Iron - Pharmacist's Tool

Above :- A tube attaches to the left hand end. One side of the right-hand end is very finely perforated. A similar implement has been seen in Sherborne Museum as part of a display of equipment taken from a local pharmacist. Plasters were made by the pharmacist for external treatments. Ingredients would be mixed with a base of lead plaster, or a mixture of resin and soap. This iron would be heated to spread the mixture on pieces of leather, calico or silk cut to the required size and shape. When warm the mixture would stick to the skin and then become solid when it cooled. This is a gas heated version designed by a Mr Boggett of Lisle Street, Leicester Square London around 1853. It was connected to a gas supply and the gas ignited as it came out of the small perforations. This heated the iron.

Wallpaper Trimmer

Left :- Morgan-Lee wallpaper trimmer. Early 1950s. At that time rolls of wallpaper had an edge to protect then from damage. This had to be removed before use. This little implement which is about 4 inches wide was used to do this. It belonged to O V Weideli, Plumber, Builder, and Decorator of Old Compton Street, London. Patents shown are 10515 and 200442. Also seen with patent 534325. None of which I can trace.

Watering Can

Left :- Watering can. Belonging to William Thomas Minchin of Sudgrove nr. Miserden Gloucestershire. 1940s.

Miscellaneous

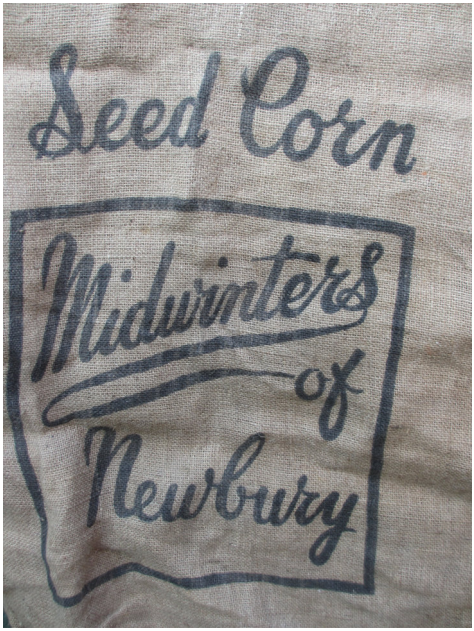
Newbury & District Gardeners' Association - Dahlia Cup - Chas Midwinter.

1990 D.S.POPPLEWELL, 1991 A.MUNDAY,1992 R.W.ROBERTS
1993 M.POCOCK,1994 M.POCOCK,1995 D.S.POPPLEWELL
1997 M.POCOCK,1998 E.WILLIAMS,1999 E.WILLIAMS
2000 E.WILLIAMS,2001 M.POCOCK,2002 M.POCOCK
2003 M.POCOCK,2004 M.POCOCK,2005 E.WILLIAMS

Mr. Midwinter was a very careful and successful gardener, being a frequent prize winner in various classes at the Horticultural Society's shows. His garden (Newham - Howard Road) was always a pattern of neatness and beauty, and he spent many happy hours in the indulgence of his hobby. His robustness of mind and body were remarkable, so much so that he had been laid aside for only a comparatively few months. Died 14 February 1916 aged 94.

Miscellaneous

Chas Midwinter Ltd Newbury. Sack approx. 2ft X 3ft,



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Miscellaneous

Wolf Tools Ltd, Ross-on-Wye, Herefordshire

Left :- Wolf-Terrex Spade/AD. Designed to take the strain off of the users back while digging. Automatically turns the soil when pulled back. Popular in the 1970s.

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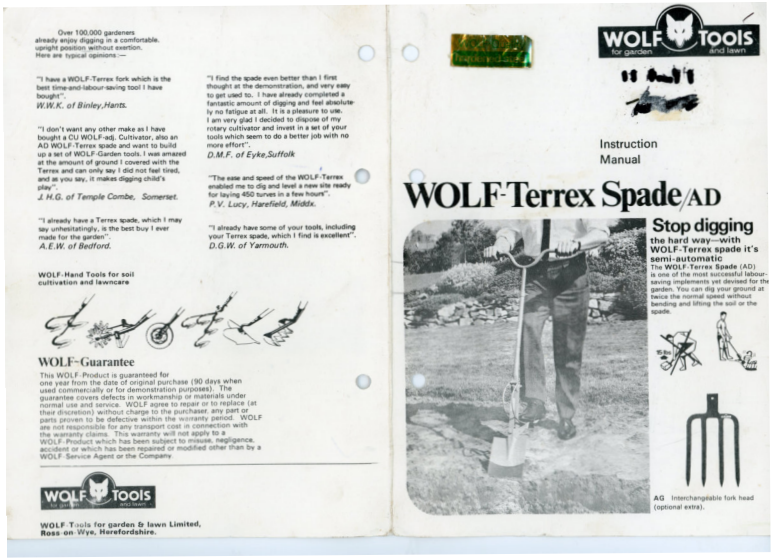
Miscellaneous



Over 100,000 gardeners already enjoy digging in a comfortable, upright position without exertion. Here are typical opinions:—

"I have a WOLF-Terrex fork which is the best time-and-labour-saving tool I have bought".
W.W.K. of Binley,Hants.

"I don't want any other make as I have bought a CU WOLF-adj. Cultivator, also an AD WOLF-Terrex spade and want to build up a set of WOLF-Garden tools. I was amazed at the amount of ground I covered with the Terrex and can only say I did not feel tired, and as you say, it makes digging child's play".
J. H.G. of Temple Combe, Somerset.

"I already have a Terrex spade, which I may say unhesitatingly, is the best buy I ever made for the garden".
A.E.W. of Bedford.

"I find the spade even better than I first thought at the demonstration, and very easy to get used to. I have already completed a fantastic amount of digging and feel absolutely no fatigue at all. It is a pleasure to use. I am very glad I decided to dispose of my rotary cultivator and invest in a set of your tools which seem to do a better job with no more effort".
D.M.F. of Eyke,Suffolk

"The ease and speed of the WOLF-Terrex enabled me to dig and level a new site ready for laying 450 turves in a few hours".
P.V. Lucy, Harefield, Middx.

"I already have some of your tools, including your Terrex spade, which I find is excellent".
D.G.W. of Yarmouth.

WOLF-Hand Tools for soil cultivation and lawncare

WOLF-Guarantee

This WOLF-Product is guaranteed for one year from the date of original purchase (90 days when used commercially or for demonstration purposes). The guarantee covers defects in workmanship or materials under normal use and service. WOLF agree to repair or to replace (at their discretion) without charge to the purchaser, any part or parts proven to be defective within the warranty period. WOLF are not responsible for any transport cost in connection with the warranty claims. This warranty will not apply to a WOLF-Product which has been subject to misuse, negligence, accident or which has been repaired or modified other than by a WOLF-Service Agent or the Company.

WOLF-Tools for garden & lawn Limited, Ross-on-Wye, Herefordshire.

WOLF-TOOLS for garden and lawn

Instruction Manual

WOLF-Terrex Spade AD

Stop digging

the hard way—with WOLF-Terrex spade it's semi-automatic

The **WOLF-Terrex Spade** (AD) is one of the most successful labour-saving implements yet devised for the garden. You can dig your ground at twice the normal speed without bending and lifting the soil or the spade.

AG Interchangeable fork head (optional extra).

How to use the Terrex Spade:

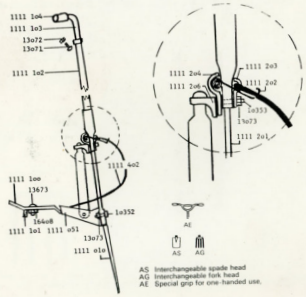
Terrex eliminates any bending and lifting of soil, because the digging action (turning over of soil) is based on the lever principle. *The soil is turned over forward*—like a pancake—a method which is basically different from that of an ordinary spade.

Please remember: Do not stand too close to Terrex and never try to over exert yourself.

Getting the Terrex spade ready for use:

(1) Attach the two arms of the coil spring to the bow spring of the footrest, *from the outside please* (ill. No. 1).

(2) Insert the handle bar into the top end of the shaft, and set it to suit your height. (The correct method is shown in ill. No. 2), before tightening the hexagon nut. Please make sure that the wooden grips are curving towards you.



AS Interchangeable spade head
AG Interchangeable fork head
AE Special grip for one-handed use.

1 Use full weight of the body on the handle and foot lever....

2 to push the Terrex easily into the soil.

3 Move the handle slightly forward to loosen the spit.

4 A light pressure on the handle down and back....

5 and the spit is lifted with the patented spring over action....

6 and turned over like a pancake.

7 Swing the Terrex into position for the next spit using the foot lever as a pivot.

8 without lifting the spade at all.